Teranex

User Manual

VC100 Family

Phase IX Software Version 90.20.16.304 and later

October 13, 2011

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Introduction

The VC100 Family of frame synchronizers and format converters brings legendary Teranex image quality to the Broadcasting world. The VC100 is packed with proprietary Teranex technology, like PixelMotion™ De-interlacing and Multi-Directional Diagonal Filtering (MDDFTM) algorithms, drastically reducing jaggies on diagonal lines. Teranex's Per-Pixel Temporal Recursive Noise Reduction algorithm minimizes HD and SD video noise. Correct cadence is assured through Teranex's Per-Pixel Video/Film detection. Teranex image processing technology yields unsurpassed image quality for the demanding Broadcaster.

The Dual REALTA™ architecture includes the industry's first fully software programmable video array processor capable of performing over 1 trillion operations per second per chip. In addition, it performs end-to-end, true 10-bit image processing. The powerful Teranex Video Processor (TVP) core built into the Realta ensures flexibility and future proofing by enabling subsequent software improvements without making hardware obsolete. The Dual-Realta Module supports a 32-bit data path, assignable as 30-bit YCrCb or RGB.

This flexible frame synchronizer can handle just about any signal at its inputs and outputs, in either SD, HD or 3G formats. The VC100 uses two Silicon Optix Realta image processing engines, reducing overall size while maximizing image processing capability. The result? The best possible picture from the most flexible, powerful, and user-friendly frame synchronizer available today, all in a space-saving 1RU design.

Proud of its rich heritage, Teranex now expands the VC100 product into a product family, with the introduction of the affordable VC80 and unbeatable VC120 Universal frame synchronizer and format converters.

VC80

The VC80 is an entry level dual-channel Universal frame synchronizer and format converter for cost sensitive applications. Born of the same technology found in the VC100, it provides exceptional image quality and flexibility. The VC80 is equipped with many of the features of the VC100, such as the availability of 16 channels of embedded audio per processing video channel, video indexing support like; Active Format Description, (AFD) and full SD & HD closed caption processing. With 48 format conversions, the VC80 has the highest number of conversions in its class. And because it is part of the VC100 product family, its capabilities are expandable; users can increase their VC80's capabilities to any VC100 product family functionality by adding software or hardware options as needed.

VC100

The VC100 is the workhorse of the VC100 product family with 107 format conversions in its basic form, expandable to 257. The VC100 is at home in both post production and broadcast facilities and comes in single or dual channel configuration, with available composite/component video I/O, analog/AES audio I/O and expanded format and frame rate conversion support, including HD Linear Standards conversion. The VC100 is an essential addition to any facility looking to handle any conversion or signal interfacing requirement.

VC120

The VC120 is the ultimate Universal frame synchronizer and format converter, with standard 3G and 4:4:4 capabilities. This platform supports 122 format conversions in its basic form and is expandable to 275, the largest number of conversions available today. Just like the VC100; it is available in single or dual channel configuration and supports HD Linear Standards Conversions.

Features:

VC100 Family Features:

- Updates Available Online
- Aspect Ratio Conversion with Active Fill Information
- Video Indexing with Active Format Description (AFD)
- Full SD 608 & HD 708 Closed Caption Conversion Support
- Local Control Panel LCD Serves as a Video I/O Monitor & Menu Display
- Full Web Server Control - Click here to see a demo (Need a internet connection - Not compatible with Internet Explorer)
- Color Correction & Logo Insertion
- Integrated Video & Audio Test Signal & Time Code Generators
- Discreet Audio Gain, Delay & Phase Controls
- Redundant Power Supplies
-

VC100 Family Optional Features:

- Remote Control Panel
- AES/Analog Audio I/O
- Audio Expansion Module
- Dolby E decoding
- Analog Composite & Component Video I/O
- 3G-SDI I/O
- Temporal Recursive Noise Reduction
- Expanded Format & Frame Rate Conversions with SD/HD Standards Conversions
-

Typical Applications

- Network Feed Centers
- Mobile Truck Applications
- International Broadcast Exchange SD/HD Linear Standards Conversion
- HD Broadcast Exchange Cross Conversion
- Frame Synchronized SD Video Signal Up Conversion To HD Switchers
- Frame Synchronized HD Video Down Conversion
- Frame Synchronized SD/HD VTR Conversion and Monitoring
- Frame Synchronized SD/HD Video Noise Cleaning

Overview

Filters and Algorithms

PixelMotion™ De-interlacing
PixelMotion de-interlacing of video originated material produces perfect progressive frames in preparation for further processing. The processing aperture is adjusted on a pixel-by-pixel basis, which preserves all of the detail of the original interlaced image and eliminates jaggies in the output image.

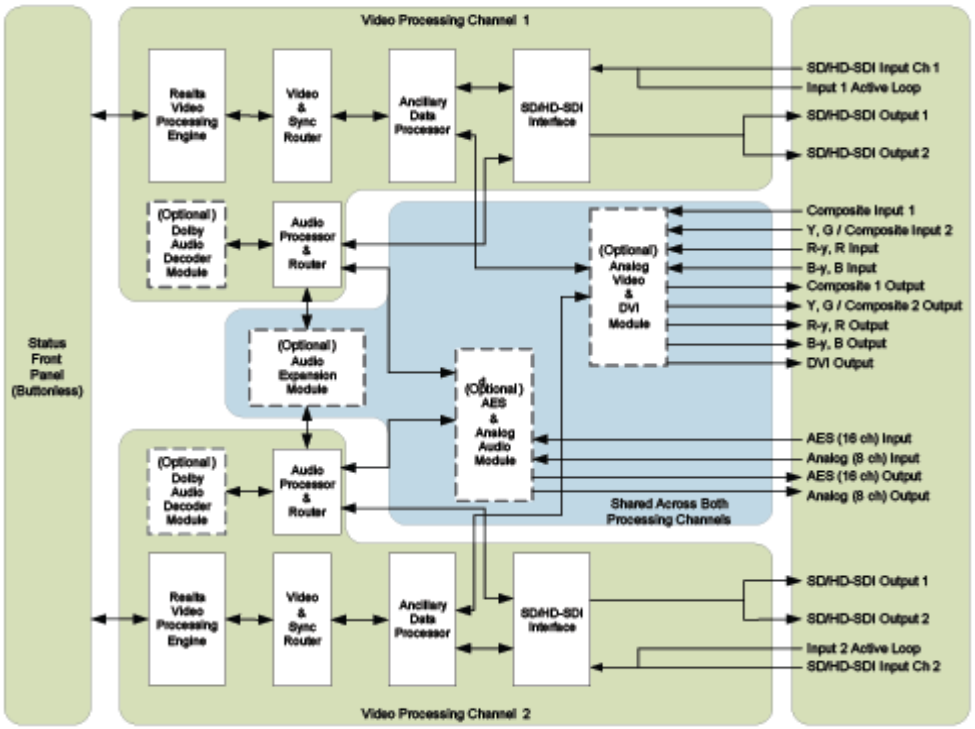
Aspect Ratio Control
The VC100 offers selection from standard aspect ratios, such as common top & bottom, common sides, 14:9 and Anamorphic. In addition, Flexview, a non-linear anamorphic aspect ratio used in upconversions, offers smart 4:3 to 16:9 aspect ratio conversion.

Detail Enhancement
The edge-sharpening filter used for Detail Enhancement is based on a traditional film compositing technique called "Unsharp Masking." This filter corrects any blurring introduced during image capture, compression or resampling.

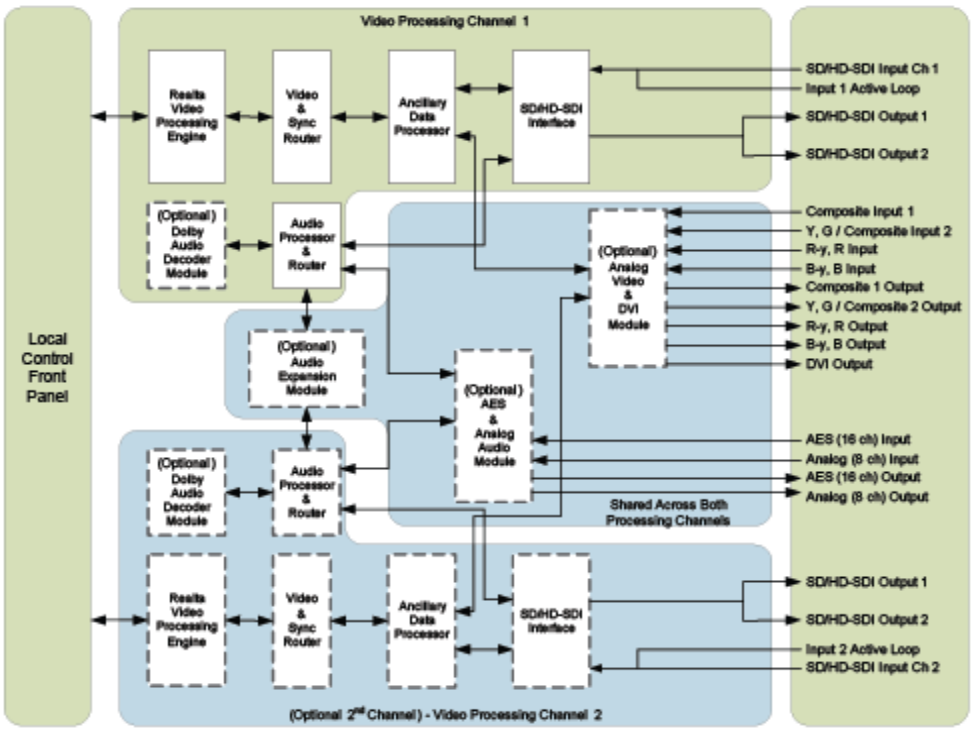
Noise Reduction
Adjustable noise reduction controls offer a greater degree of temporal recursive noise reduction with fewer artifacts. A bias control allows the aggressiveness to be fine-tuned. For filter performance testing, a Red Overlay can be applied that will color pixels that are in motion in Red.

Block Diagram

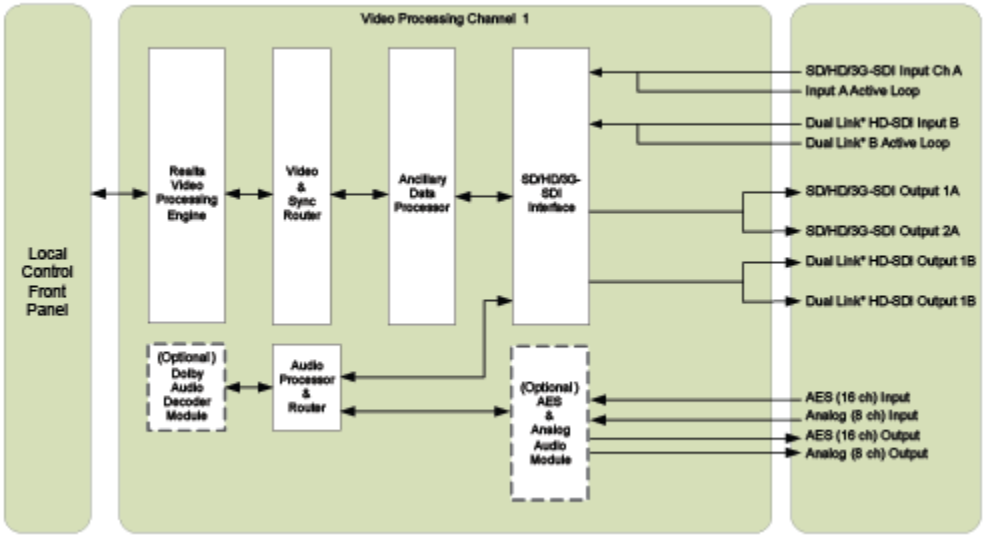
VC80



VC100


Video Processing Channel 1
Local Control Front Panel
Realta Video Processing Engine
Video & Sync Router
Ancillary Data Processor
SD/HD-SDI Interface
SD/HD-SDI Input Ch 1
Input 1 Active Loop
SD/HD-SDI Output 1
SD/HD-SDI Output 2
(Optional) Dolby Audio Decoder Module
Audio Processor & Router
(Optional) Audio Expansion Module
(Optional) Analog Video & DVI Module
Composite Input 1
Y, G / Composite Input 2
R-y, R Input
B-y, B Input
Composite 1 Output
Y, G / Composite 2 Output
R-y, R Output
B-y, B Output
DVI Output
(Optional) AES & Analog Audio Module
AES (16 ch) Input
Analog (8 ch) Input
AES (16 ch) Output
Analog (8 ch) Output
Shared Across Both Processing Channels
(Optional 2nd Channel) - Video Processing Channel 2
Input 2 Active Loop
SD/HD-SDI Input Ch 2

VC120


Video Processing Channel 1
Local Control Front Panel
Realta Video Processing Engine
Video & Sync Router
Ancillary Data Processor
SD/HD/3G-SDI Interface
SD/HD/3G-SDI Input Ch A
Input A Active Loop
Dual Link* HD-SDI Input B
Dual Link* B Active Loop
SD/HD/3G-SDI Output 1A
SD/HD/3G-SDI Output 2A
Dual Link* HD-SDI Output 1B
Dual Link* HD-SDI Output 1B
(Optional) Dolby Audio Decoder Module
Audio Processor & Router
(Optional) AES & Analog Audio Module
AES (16 ch) Input
Analog (8 ch) Input
AES (16 ch) Output
Analog (8 ch) Output

Format Conversion Tables

Base VC80 Format Conversions

Input	Output	Input	Output
480i59.94	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98	480i60	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98
576i50	576i50 720p50 1080i50 1080p50✸ 1080sf25	720p50	576i50 720p50 1080i50 1080p50✸ 1080sf25
720p59.94	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98	720p60	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98
1080i50	576i50 720p50 1080i50 1080p50✸ 1080sf25	1080i59.94	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98
1080i60	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98	1080sf23.98	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98
1080sf24	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf24	1080sf25	576i50 720p50 1080i50 1080p50✸ 1080sf25
1080p50✸	576i50 720p50 1080i50 1080p50	1080p59.94✸	480i59.94 720p59.94 1080i59.94 1080p59.94

✸ - Available when OPTIONAL VC1-3GIO module is installed.

Base VC100 Format Conversions

Input	Output	Input	Output
480i59.94	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97	480i60	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97
576i50	576i50 720p50 1080i50 1080p50✸ 1080sf25 1080p25	576sf23.98	480i59.94 576sf23.98 720p59.94 1080i59.94 1080sf23.98 1080p23.98
720p50	576i50 720p50 1080i50 1080p50✸ 1080sf25 1080p25	720p59.94	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97
720p60	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97	1080i50	576i50 720p50 1080i50 1080p50✸ 1080sf25 1080p25
1080i59.94	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97	1080i60	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97
1080sf23.98	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98	1080p23.98	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98
1080sf24	1080sf24 1080p24	1080p24	1080sf24 1080p24

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Base VC100 Format Conversions (continued)

Input	Output	Input	Output
1080sf25	576i50 720p50 1080i50 1080p50✸ 1080sf25 1080p25	1080p25	576i50 720p50 1080i50 1080p50✸ 1080sf25 1080p25
1080sf29.97	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf29.97 1080p29.97	1080p29.97	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf29.97 1080p29.97
1080p50✸	576i50 720p50 1080i50 1080p50 1080sf25 1080p25	1080p59.94✸	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97

✸ - Available when OPTIONAL VC1-3GIO module is installed

Base VC120 Format Conversions

Input	Output	Input	Output
480i59.94	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97	480i60	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97
576i50	576i50 720p50 1080i50 1080p50 1080sf25 1080p25	576sf23.98	480i59.94 576sf23.98 720p59.94 1080i59.94 1080sf23.98 1080p23.98
720p50	576i50 720p50 1080i50 1080p50 1080sf25 1080p25	720p59.94	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97
720p60	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97	1080i50	576i50 720p50 1080i50 1080p50 1080sf25 1080p25
1080i59.94	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97	1080i60	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97
1080sf23.98	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94 1080sf23.98 1080p23.98	1080p23.98	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94 1080sf23.98 1080p23.98
1080sf24	1080sf24 1080p24	1080p24	1080sf24 1080p24

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Base VC120 Format Conversions (continued)

INPUT	OUTPUT	INPUT	OUTPUT
1080sf25	576i50 720p50 1080i50 1080p50 1080sf25 1080p25	1080p25	576i50 720p50 1080i50 1080p50 1080sf25 1080p25
1080sf29.97	480i59.94 720p59.94 1080i59.94 1080p59.94 1080sf29.97 1080p29.97	1080p29.97	480i59.94 720p59.94 1080i59.94 1080p59.94 1080sf29.97 1080p29.97
1080p50	576i50 720p50 1080i50 1080p50 1080sf25 1080p25	1080p59.94	480i59.94 576sf23.98 720p59.94 1080i59.94 1080p59.94 1080sf23.98 1080p23.98 1080sf29.97 1080p29.97

Available SD Standards Conversions (Option: VC1-SDSTDS-1CH, -2CH)

Input	Output	Input	Output
480i59.94	576i50 720p50 1080i50 1080p50✸ 1080sf24 1080p24 1080sf25 1080p25	480i60	576i50 720p50 1080i50 1080p50✸ 1080sf24 1080p24 1080sf25 1080p25
576i50	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf24 1080p24 1080sf29.97 1080p29.97	720p50	480i59.94
720p59.94	576i50	720p60	576i50
1080i50	480i59.94	1080i59.94	576i50
1080i60	576i50	1080sf23.98	576i50
1080p23.98	576i50	1080sf24	480i59.94 576i50
1080p24	480i59.94 576i50	1080sf25	480i59.94
1080p25	480i59.94	1080sf29.97	576i50
1080p29.97	576i50		

✸ - Available in VC80/100 (with 3GIO board installed) and in VC120

Available SD/HD Standards Conversions (Option: VC1-HDSTDS-1CH, -2CH)

Input	Output	Input	Output
480i59.94	576i50 720p50 1080i50 1080p50✸ 1080sf24 1080p24 1080sf25 1080p25	480i60	576i50 720p50 1080i50 1080p50✸ 1080sf24 1080p24 1080sf25 1080p25
576i50	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf24 1080p24 1080sf29.97 1080p29.97	720p50	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf24 1080p24 1080sf29.97 1080p29.97
720p59.94	576i50 720p50 1080i50 1080p50✸ 1080sf23.98 1080p23.98 1080sf24 1080p24 1080sf25 1080p25	720p60	576i50 720p50 1080i50 1080p50✸ 1080sf23.98 1080p23.98 1080sf24 1080p24 1080sf25 1080p25
1080i50	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf24 1080p24 1080sf29.97 1080p29.97	1080i59.94	576i50 720p50 1080i50 1080p50✸ 1080sf24 1080p24 1080sf25 1080p25
1080i60	576i50 720p50 1080i50 1080p50✸ 1080sf24 1080p24 1080sf25 1080p25	1080sf23.98	576i50 720p50 1080i50 1080p50✸ 1080sf24 1080p24 1080sf25 1080p25 1080sf29.97 1080p29.97
1080p23.98	576i50 720p50 1080i50 1080p50✸ 1080sf24 1080p24 1080sf25 1080p25 1080sf29.97 1080p29.97	1080sf24	480i59.94 576i50 720p50 720p59.94 1080i50 1080p50✸ 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080p24 1080sf25 1080p25 1080sf29.97 1080p29.97

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Available SD/HD Standards Conversions *(continued)*

Input	Output	Input	Output
1080p24	480i59.94 576i50 720p50 720p59.94 1080i50 1080p50✸ 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf24 1080sf25 1080p25 1080sf29.97 1080p29.97	1080sf25	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf24 1080p24 1080sf29.97 1080p29.97
1080p25	480i59.94 720p59.94 1080i59.94 1080p59.94✸ 1080sf23.98 1080p23.98 1080sf24 1080p24 1080sf29.97 1080p29.97	1080sf29.97	576i50 720p50 1080i50 1080p50✸ 1080sf23.98 1080p23.98 1080sf24 1080p24 1080sf25 1080p25
1080p29.97	576i50 720p50 1080i50 1080p50✸ 1080sf23.98 1080p23.98 1080sf24 1080p24 1080sf25 1080p25		

✸ - Available in VC80/100 (with 3GIO board installed) and VC120

Packages

VC80SE-SFP-2CH	Dual Channel VC80 with Status Control Panel
VC100SE-LCP	Single Channel VC100 with Local Control Panel
VC100SE-LCP-2CH	Dual Channel VC100 with Local Control Panel
VC120SE-LCP	Single Channel VC120 with Local Control Panel

Options

VC1-80-100	VC80 to VC100 dual channel upgrade
VC1-3GIO	SD/HD/3G-SDI I/O board (must be factory installed). Available for the VC80 & VC100
VC1-CCIO	Analog composite / component video I/O board. Available for the VC80 & VC100
VC1-AAIO	16 channel AES / 8 channel analog audio I/O, audio synchronizer with analog XLR & AES XLR breakout cables
VC1-AABIO	16 channel AES / 8 channel analog audio I/O, audio synchronizer with analog XLR & AES BNC breakout cables
VC1-AEM	Audio Expansion Module (dual channel systems only)
VC1-AES-BNC	2m multi-pin AES breakout cable on BNC
VC1-AES-XLR	2m multi-pin AES breakout cable on XLR
VC1-ANA-XLR	2m multi-pin analog audio breakout cable on XLR
VC1-SDNR-1CH	Motion adaptive SD Noise Reduction (single channel system). Available for the VC80 & VC100
VC1-SDNR-2CH	Motion adaptive SD Noise Reduction (dual channel system). Available for the VC80 & VC100
VC1-HDNR-1CH	Motion adaptive HD Noise Reduction (single channel system). Available for the VC80 & VC100
VC1-HDNR-2CH	Motion adaptive HD Noise Reduction (dual channel system). Available for the VC80 & VC100
VC1-SDSTDS-1CH	SD standards conversion option (single channel system)
VC1-SDSTDS-2CH	SD standards conversion option (dual channel system)
VC1-SD-FRC-NR-1CH	SD Standards & Frame Rate Conversion Option with Noise Reduction (single channel system). Available for the VC80 & VC100
VC1-SD-FRC-NR-2CH	SD Standards & Frame Rate Conversion Option with Noise Reduction (dual channel system). Available for the VC80 & VC100
VC1-HDSTDS-1CH	HD standards conversion option (single channel system)
VC1-HDSTDS-2CH	HD standards conversion option (dual channel system)

VC1-HD-FRC-NR-1CH	SD/HD Standards & Frame Rate Conversion Option with Noise Reduction (single channel system). Available for the VC80 & VC100
VC1-HD-FRC-NR-2CH	SD/HD Standards & Frame Rate Conversion Option with Noise Reduction (dual channel system). Available for the VC80 & VC100
VC1-DOLBY-DEC	Dolby-E Decoding (per channel)
VC1-LCP	Local control panel
VC1-SFP	Status front panel (SFP) with power switch and status
VC1-RCP-RM	19 inch EIA rack mount bracket for Remote Control Panel
VC1-RCP-DT	Desktop bracket for Remote Control Panel
VC1-RCP-PS	Remote control panel external power supply (12VDC)
VC1-2D-3D	2D to 3D Stereoscopic Processing application for dual channel VC100
VC1-3D-DEC	3D Video Decoding application for dual channel VC100
VC1-3D-ENC	3D Video Encoding application for dual channel VC100
VC1-3D-SYNC	3D Synchronization application for dual channel VC100
VC1-3DTK	3D Video Tool Kit application for dual channel VC100

Applications

Up-/Down-conversion

In situations where the highest image quality up- or down-conversion is necessary, Teranex's VC100 uses proprietary PixelMotion™ De-interlacing, 3:2 Detection, and Detail Enhancement combined with a powerful array processing module, provides the best image solution. The first step in the conversion process is to identify whether the input material is video or film originated. The identification process happens in a fully automatic mode and selects either PixelMotion De-interlacing for video-based material or 3:2 Detection for film-based material. The goal is to apply the appropriate filter in order to recover the full vertical resolution of the input material.

PixelMotion de-interlacing produces perfect progressive frames in preparation for further processing. The processing aperture is adjusted on a pixel-by-pixel basis, which preserves all of the detail of the original interlaced image. Additionally, the filter eliminates "jaggies" in the output image, providing well-defined edges on objects and producing the sharpest images possible.

3:2 Detection recognizes the redundant fields inserted by the telecine during the conversion of film to video. This advanced 3:2 pull-down filter avoids frame rate conversion artifacts and provides the highest vertical resolution and motion quality.

Since the quality of the video de-interlacing is so high, there will be no difference visible in the vertical resolution seen with film originated material and that of the de-interlaced video originated material.

Once the image has been de-interlaced and up-converted, Detail Enhancement can be applied to the image to further sharpen and enhance the output. This filter adds an additional level of image quality by helping to better define the detail in the up-converted image. Detecting the edges of objects and adjusting the contrast ratio around those objects to help separate them from the Background achieve this.

Frame-rate Conversion

Moving images exist in three dimensions. Firstly, in the horizontal direction, images are made up of individual pixels. Secondly, in the vertical direction, they are made up of the lines contained in the field or frame. The combination is referred to as the spatial domain. Thirdly, the motion image is composed of a number of fields or frames per second, which is referred to as the temporal domain.

The process of frame-rate, or standards conversion is a form of sample rate conversion in two or three of the above dimensions. It consists of expressing moving images sampled on one three-dimensional sampling lattice to a different three-dimensional lattice.

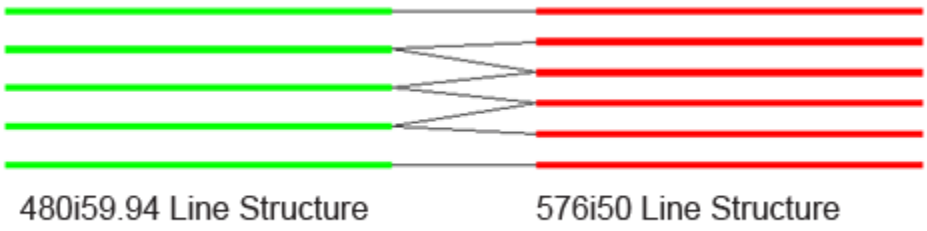
A process called interpolation is used to convert between these various spaces. Interpolation is defined as computing the value of a sample, or samples, which lie outside the sampling matrix of the source signal. In other words, it is the process of computing the values of output samples that lie between the input samples.

Teranex's per-pixel processing allows the processing aperture to be adjusted on a pixel-by-pixel basis, which preserves all of the detail of the original image.

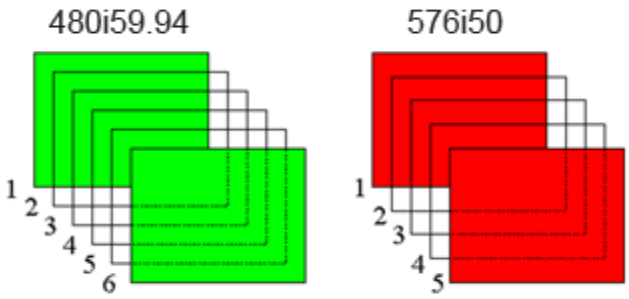
Frame-rate conversions generally involve changing the number of lines and fields (or frames) per second in an image. Examples of standards conversions include:

- 480i59.94 to 576i50
- 720p59.94 to 1080i50
- 1080i59.94 to 1080i50

If we look at a standards conversion from 480i59.94 to 576i50, we need to change two of the three parameters of the signal. The first is the number of lines in each field. A 480i signal has 240 lines per field while the 576i signal has 288 lines, as shown below.



The second parameter which needs to be changed is the number of fields per second. The 480i signal has 59.94 fields per second while the 576i signal has 50, as shown below.



The third parameter, the number of pixels on each active picture line, does not change significantly between 480i and 576i.

Conversions involving high definition I/O require that all three domains must be changed. Examples include:

- 480i59.94 to 1080i50
- 1080i59.94 to 576i50
- 480i59.94 to 1080p23.98-sf

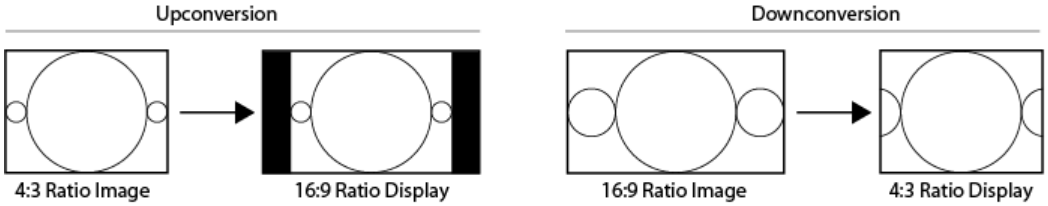
Aspect Ratio Conversion

The Aspect Ratio Conversion parameters of the VC100 Product Family provides access to the parameters listed below:

Common T&B

Common T&B ensures that the top and bottom edges of the input image match the top and bottom edges of the output aspect ratio. If the aspect ratio of the input video is 4:3 and it is passed on to a 16:9 display using the common top and bottom method (e.g. up-conversion), the original 4:3 image will appear centered in the 16:9 display with black bars, or pillars, on the left and right side.

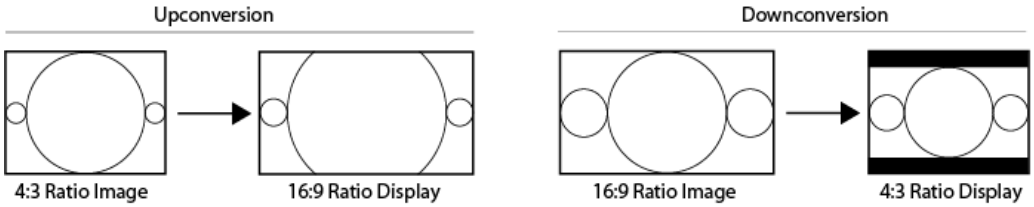
If the input aspect ratio is 16:9 and it is passed on to a 4:3 display (e.g. down-conversion), the original image will be cropped on the left and right side so that the original image's top and bottom edges will be common to those of the output display. While this method maintains correct geometry and fills the entire output display, it also results in an overall loss of approximately 33.33% of the input information in the horizontal domain.



Common Sides (CS)

The Common Sides aspect ratio ensures that the left and right edges of the input image match the left and right edges of the output aspect ratio. If the input aspect ratio is 4:3 and the output aspect ratio is 16:9 (e.g. up-conversion), the left and right edges of the input image will be stretched to match the left and right edges of the output. In order to maintain correct geometry of the image, the input image is then stretched vertically as well. This has the same result as "zooming in" on the image. While this method maintains correct geometry and fills the entire output display, it also results in an overall loss of approximately 33.33% of the input information in the vertical domain. This loss of information is split evenly between the top and bottom of the image.

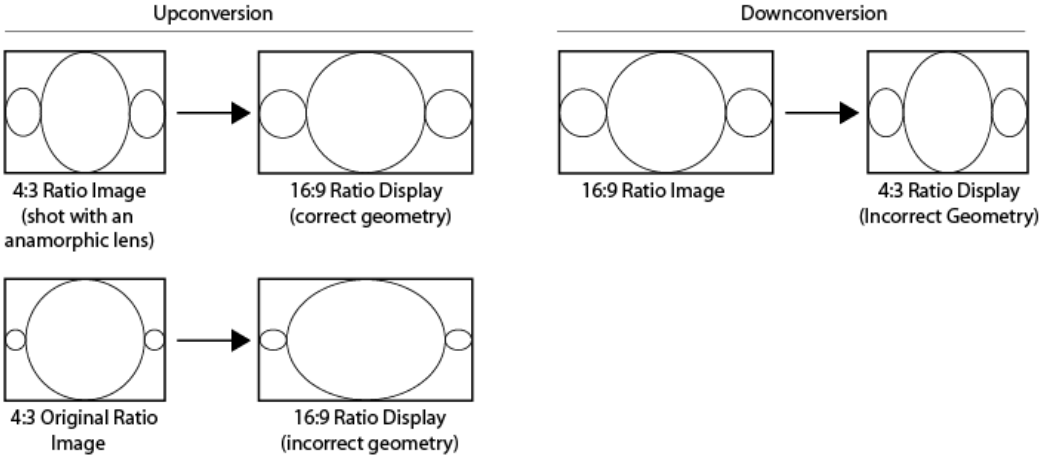
If the input aspect ratio is 16:9 and it is passed on to a 4:3 display (e.g. down-conversion), the image will appear centered in the 4:3 display with black bars at the top and bottom of the image (a letterbox display).



Anamorphic

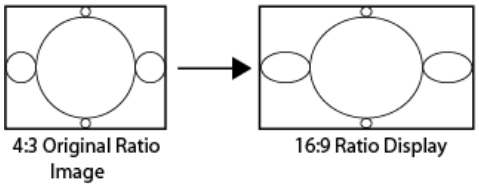
Anamorphic mode is similar to Common Top and Bottom in that it ensures that the top and bottom edges of the input aspect ratio match the top and bottom edges of the output aspect ratio. However, it also stretches the image horizontally to fill the output 16:9 aspect ratio. This mode is designed for use with material that was originally captured with an anamorphic lens, thereby generating an output image with correct geometry when stretched horizontally to 16:9. When used with standard 4:3 material, it will have the effect of

stretching the material horizontally, causing circles to appear as ovals, etc.



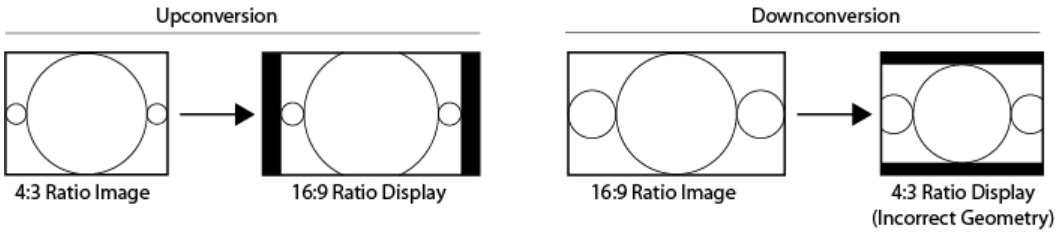
Flexview

Flexview, available in up-conversions only (480i59.94 to 720p59.94 & 1080i59.94 and 576i50 to 720p50 & 1080i50), is a non-linear anamorphic aspect ratio designed for use when converting 4:3 material to 16:9 without the traditional distortion of a normal anamorphic stretch. Flexview leaves the center portion of the image untouched, while providing increasing amounts of stretch towards the left and right edges of the image, filling the 16:9 image without distorting the center action area.



14:9

The fixed 14:9 mode scales the input image to occupy a 14:9 ratio area of the output display. For example, if the input aspect ratio is 4:3 and it is passed on to a 16:9 display, the input image will be stretched horizontally and vertically to fill a 14:9 ratio of the output image, leaving the 16:9 display with black bars (pillars) on the left and right side. While this method maintains correct geometry, it also results in an overall loss of approximately 16.6% of the input information in the vertical domain (half of what is lost when using the Common Sides mode). This loss of information is split evenly between the top and bottom of the image. If the input aspect ratio is 16:9 and it is passed on to a 4:3 ratio display, the output image will be cropped on the right and left side (also with an overall loss of approximately 16.6% of the input information), and will have black bars (letterboxed image) at the top and bottom of the image.



Customer Support

Getting assistance with the VC100 Family product

This Quick Start Guide will help in the setup of the Teranex VC100 Family product. However, if you need further assistance, please contact:

- **Technical Support Phone:**
  For US & Canada: 1.877.2.TERANEX (1.877.283.7263)
  International: 1.407.858.6000
- **Technical Support e-mail:**
  support@teranex.com
- **Technical Support web site:**
  www.teranex.com/support

Servicing

Only authorized service personnel should open the unit. Disconnect AC sources to the power supply before servicing.

Connections

Rear Panel

VC80, VC100 & VC120 - AC Power, Control, LTC Connections

1 - PS1 – Mains input 1
90-110V @ 60Hz / 200-220V @ 50Hz, Auto Detect
2 - PS2 – Mains input 2
90-110V @ 60Hz / 200-220V @ 50Hz, Auto Detect
3 - RS232/RS422 – Serial Port
- 1x 9-pin-D-Male
- Selectable RS232 or RS422
- User adjustable baud rate via menu selection
4 - GPI – General Purpose Interface
1x 9-pin D-Female
5 - Linear Time Code (LTC) Output – Out 2 (video processing channel 2)
1x BNC
6 - Linear Time Code (LTC) Input – In 2 (video processing channel 2)
1x BNC
7 - Linear Time Code (LTC) Output – Out 1 (video processing channel 1)
1x BNC
8 - Linear Time Code (LTC) Input – In 1 (video processing channel 1)
1x BNC
9 - Ethernet Port (10/100 BaseT)
1x RJ-45

VC80 & VC100 - Digital Video Input/Output & Reference Input

1 - Reference Input 2 - SD analog blackburst, HD tri-level sync (interlaced or progressive)
1x BNC
2 - Reference Input 1 - SD analog blackburst, HD tri-level sync (interlaced or progressive)
1x BNC
3 - SD/HD-SDI Output 2B (video processing channel 2)
1x BNC
4 - SD/HD-SDI Output 2A (video processing channel 2)
1x BNC
5 - SD/HD-SDI Output 1B (video processing channel 1)
1x BNC
6 - SD/HD-SDI Output 1A (video processing channel 1)
1x BNC
7 - SD/HD-SDI Input 2 Loop (Active)
1x BNC
8 - SD/HD-SDI Input 2 (video processing channel 2)
1x BNC
9 - SD/HD-SDI Input 1 Loop (Active)
1x BNC
10 - SD/HD-SDI Input 1 (video processing channel 1)
1x BNC

VC1-AAIO Option for VC80 & VC100 - Analog & AES Audio Connection

1 - Analog Audio Input/Output
High Density Molex LFH Connector
2 - AES Audio Input/Output
High Density Molex LFH Connector

Note: Requires Analog & AES Audio Option Board

Note: When using the analog or AES audio cables, the cables should be secured to the rack to prevent excess stress from being placed on chassis audio connectors.

VC1-CCIO Option, for VC80 & VC100 - Analog Video Input/Output & DVI Output

1 - DVI-I Output
1x DVI Connector
2 - Analog Component Y/G Output
1x BNC
3 - Analog Component Pb/B/C Output
1x BNC
4 - Analog Component Pr/R Output
1x BNC
5 - Analog Composite Output
1x BNC
6 - No Connection
1x BNC
7 - Analog Component Y/G Input
1x BNC
8 - Analog Component Pb/B/C Input
1x BNC
9 - Analog Component Pr/R Input
1x BNC
10 - Analog Composite Input
1x BNC

Note: Requires Analog Video Input/Output Option Board

1 - 3G / HD / SD-SDI Output 1B
1x BNC
2 - 3G / HD / SD-SDI Output 1A
1x BNC
3 - 3G / HD / SD-SDI Input 1
1x BNC
4 - 3G / HD / SD-SDI Input 1 Loop (Active)
1x BNC
5 - 3G / HD / SD-SDI Output 2B
1x BNC
6- 3G / HD / SD-SDI Output 2A
1x BNC
7 - 3G / HD / SD-SDI Input 2
1x BNC
8 - 3G / HD / SD-SDI Input 2 Loop (Active)
1x BNC
9 - Reference Input 2 - SD analog blackburst, HD tri-level sync (interlaced or progressive)
1x BNC
10 - Reference Input 1 SD analog blackburst, HD tri-level sync (interlaced or progressive)
1x BNC

Operation

There are many ways to operate the VC100 Family of products and set their many parameters. This section presents the options for setting those parameters. The following sections of this user manual will describe how to use each one.

Local Control (Full)

In the Local Control mode, the panel is physically mounted to the VC100 frame and controls this one unit. The panel establishes communication with the frame and is powered via a multi-pin header connector located between the two units. The paramaters are set with the front panel's Function Buttons - “Soft” buttons associated with panel functions, such as input select, video select, etc.

Remote Control (Full)

In the Remote Control mode, the panel is mounted apart from the chassis. It is connected to the chassis via an Ethernet connection and powered by an external power supply. The Remote panel can be assigned to any VC100 chassis on the network. The paramaters are set with the front panel's Function Buttons - “Soft” buttons associated with panel functions such as input select, video select, etc.

Status Front Panel

The VC100 must have either a Local Control Panel (VC1-LCP) or a Status Front Panel (VC1-SFP) attached to the chassis in order to operate. In situations where the user wants to control the VC100 through a Remote Control Panel or the Web Server, a Status Front Panel may be connected to the chassis when local control is not desired.

Graphical User Interface

The local control panel has a LCD display with a Graphical User Interface that can also be used for setting the product's many parameters and to operate the VC100 Family of products. This method can be used in local mode and in remote mode. See the Graphical User Interface / LCD Menu section of this user manual for instructions on how to operate the VC100 Family of product through the Graphical User Interface.

Web User Interface

The VC100 Family provides an intuitive Web interace, with which to control and operate the product's parameters. The VC80, VC100 & VC120 can be easily operated from your laptop computer with Firefox, Chrome or Safari. See the Web-based Control Operation section of this user manual for instructions on how to operate the VC100 Family of product through the Web Interface.

Local Control Panel Operation

The LCD Control Panel provides intuitive and quick access to critical functions and status. The selection buttons are easy to read multicolored LEDs, which allows the user to easily view the current system status. Selection of video & audio sources, input and output formats, and the desired output aspect ratio can all be done from front panel buttons.

The LCD display is used as a video display and for menu navigation. This allows for confidence monitoring of the input or output signals, and a text overlay showing the format and frame rate of the monitored signal is provided.

- 1- Input / Output Channel Selection
- 2- Video Source / Destination Selection
- 3- Input / Output Format Selection
- 4- Aspect Ratio Selection
- 5- Audio Source / Destination Selection
- 6- Menu Soft Keys
- 7- Full Color Menu and Video Display
- 8- Rotary Encoder & Menu Navigation
  - Back & Home Buttons
  - USB Port
- 9- Menu Button / Setup Menu Button / Proc Bypass Button
- 10- Video Proc Amp Adjustments
- 11- Test Pattern Generator Menu
  - Preset Menu - Logo Menu
- 12- Audio and System Status LEDs
- 13- Panel Lock (Locks the Control Panel)
  - Power Switch

Function Buttons

- The "Soft" Function Buttons are associated with control panel functions, such as input selection, video format selection, Proc Amp controls, etc.

Display Control Buttons

- The Display Control Buttons are 8 “Soft” buttons surrounding Liquid Crystal Display (LCD). They are used when making Menu selections and for parameter setup.
- The Menu ”Home” button takes the user to first (or Home) menu in the Menu Tree
- The Menu ”Back” button takes the user up one level in the Menu Tree each time it is pressed.

Rotary Encoder

- The rotary encoder is a linear encoder with push ”TAKE” function. It is used for making parameter adjustments and also serves as the "TAKE" button to accept changes while the control panel is in "update" mode.

Power switch

- An illuminated power switch is located on the right side of the control panel.

LEDs

The Control Panel utilizes the following:

- Tri-Color LEDs (Qty 31)
- All LEDs in sections 1 through 5 are red, green, blue tri-color LEDs.
- Bi-Color LEDs (Qty 49)
- All LED’s in sections 6 through 10 are bi-color LEDs.

LCD Video/Menu Display

- The Control Panel utlizes a 320 x 240 Color LCD Display, providing menu and confidvideo.

Control Panel Interfaces

The VC100 Control Panel supports the following:

- **USB port**
  - The USB port is located on the front of the control panel below the rotary encoder.
  - A USB 2.0 compliant mass storage device is required.

- **Ethernet port (for remote connections)**
  - An Ethernet port is located on the rear of the control panel. It is only used when the control panel is used as a remote control device.
  - The Ethernet port is 10/100 BaseT.
  - The Ethernet port has a user-assignable IP address and Subnet address.
  - The Ethernet connection supports DHCP.

- **Multi-pin Header Connector**
  The Multi-pin header connector is located on the rear of the control panel and carries the following signals between the chassis and the control panel:
  - USB communication
  - High-speed serial data
  - Video data
  - DC Power
- **Power Connector**
  - When the control panel is used as a local control panel attached to the chassis, power for the panel is derived from the chassis via the multi-pin header connector.
  - When the control panel is used in a remote control configuration, an external 12VDC power supply must be used. The 12VDC power connector is located on the rear of the control panel.

Control Panel Logic

Control Panel LED Color Code

Button Color	State	Mode	Comments
Red	Flashing	Update	Error condition
Orange	Flashing	Update	Warning condition
Green	Solid	All	Function is available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	Active	Indicates that the current state of the selected input or output is an interlaced or segmented frame format (all sections follow)
Blue	Flashing	Update	Indicates that the selected input or output is in Update mode and will be an interlaced or segmented frame format (all sections follow)
Magenta	Solid	Active	Indicates that the current state of the selected input or output is a progressive format (all sections follow)
Magenta	Flashing	Update	Indicates that the selected input or output is in Update mode and will be a progressive format (all sections follow)

There are two primary states for the control panel buttons/LED logic.

- The first is “Active” mode, shown by SOLID LED’s. This mode shows the current state of the selected input or output channel.
- The second is the “Update” mode, shown by FLASHING LED’s. This mode allows the user to change the state of the currently selected input or output channel.

Note: The Input/Output channel selected by the user drives the state of all sections of the control panel and the MenuTree.

Input/Output Section

In 1 / In 2 Buttons

Allows the user to configure video processing for channel 1 and channel 2 inputs. The first press places the system into the Active mode (solid LED's); the second press places the system into the Update mode (flashing LED's).

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal present on SDI 1 / SDI 2
Orange	Flashing	Update	Currently selected format does not match input signal on SDI 1 / SDI 2 (manual input mode)
Green	Solid	All	IN 1 / IN 2 are available, but not selected
Cyan	Solid	Active	Shows association with currently selected output
Blue	Solid	Active	Indicates that the current state of IN 1 / IN 2 is an interlaced or segmented frame format (all sections follow)
Blue	Flashing	Update	Indicates that IN 1 / IN 2 are in Update mode and will be an interlaced or segmented frame format (all sections follow)
Magenta	Solid	Active	Indicates that the current state of IN 1 / IN 2 is a progressive format (all sections follow)
Magenta	Flashing	Update	Indicates that IN 1 / IN 2 are in Update mode and will be a progressive format (all sections follow)

Out 1 / Out 2 Buttons

Allows the user to configure video processing for channel 1 and channel 2 outputs. The first press places the system into the Active mode (solid LED's); the second press places the system into the Update mode (flashing LED's).

Button Color	State	Mode	Comments
Green	Solid	All	OUT 1 / OUT 2 are available, but not selected
Cyan	Solid	Active	Shows association with currently selected output
Blue	Solid	Active	Indicates that the current state of OUT 1 / OUT 2 is an interlaced or segmented frame format (all sections follow)
Blue	Flashing	Update	Indicates that OUT 1 / OUT 2 are in Update mode and will be an interlaced or segmented frame format (all sections follow)
Magenta	Solid	Active	Indicates that the current state of OUT 1 / OUT 2 is a progressive format (all sections follow)
Magenta	Flashing	Update	Indicates that OUT 1 / OUT 2 are in Update mode and will be a progressive format (all sections follow)

Video Select

SDI 1 / SDI 2 (Button)

Assigns the SDI 1 / SDI 2 Inputs to the currently selected input channel, or assigns the SDI 1 / SDI 2 outputs to the currently selected output channel. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	New interlaced or segmented frame source or destination selected – Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	NEW progressive source or destination selected – Press the Rotary Encoder to confirm

Note: SDI IN 1 will always be associated with SDI OUT 1, and SDI IN 2 with SDI OUT 2.

CPST 1 / CPST 2 (Buttons)

Assigns the CPST 1 (analog composite 1) / CPST 2 (analog composite 2) Inputs to the currently selected input channel, or the CPST 1 (analog composite 1) / CPST 2 (analog composite 2) outputs to the currently selected output channel. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected input or output
Blue	Flashing	Update	NEW source or destination selected – Press the Rotary Encoder to confirm

COMP (Button)

Assigns the COMP (analog component) Input to the currently selected input channel or the COMP (analog component) output to the currently selected output channel. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	New interlaced or segmented frame source or destination selected – Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	New progressive source or destination selected – Press the Rotary Encoder to confirm

DVI OUT (Button)

Assigns the DVI output to the currently selected output. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected output
Blue	Solid	All	Shows the state of the currently selected output
Blue	Flashing	Update	NEW source or destination selected – Press the Rotary Encoder to confirm

Format / Frame-rate Select

Note: During format changes, it may take up to 30 seconds for the output to become stable. During this time the output of the VC100 will be black.

480/576 (Button)

The 480/576 Button allows the user to select Standard Definition input or output. The user MUST then select either the 59.94 button (for 480i59.94), the 50 button (for 576i50) or the 23.98PSF button (for 576sf23.98) to define the desired format.

After selecting both the line and frame rate, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	New interlaced or segmented frame source or destination selected – Press the Rotary Encoder to confirm

Note: The 576 line input or output can be set to 576i50, by pressing the 50 button in conjunction with the 576 selection. Slow PAL, 576sf23.98, Is also available by pressing the 23.98 PSF button in conjunction with the 576 selection.

720 (Button)

Sets the line rate of the currently selected input or output to 720. The user MUST then select either the 59.94 button (for 720p59.94) or the 50 button (for 720p50) to define the desired format.

After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected output
Magenta	Solid	All	Shows the state of the currently selected progressive input or output

Magenta	Flashing	Update	New progressive source or destination selected – Press the Rotary Encoder to confirm

1080 (Button)

Sets the line rate of the currently selected input or output to 1080. The first button press will allow selection of an interlaced or segmented from format and will be illuminated Blue. Pressing the button again will allow selection of a progressive format and will be illuminated Magenta. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	All	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	New interlaced or segmented frame source or destination selected – Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	New progressive source or destination selected – Press the Rotary Encoder to confirm

59.94 (Button)

Sets the frame rate of the currently selected input or output to either i59.94(interlaced) or p59.94 (progressive). The first button press will allow selection of an interlaced or segmented frame format and will be illuminated Blue. Pressing the button again will allow selection of a progressive format and will be illuminated Magenta. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	New interlaced or segmented frame source or destination selected – Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	New progressive source or destination selected – Press the Rotary Encoder to confirm

50 (Button)

Sets the frame rate of the currently selected input or output to either i50 (interlaced) or p50 (progressive). The first button press will allow selection of an interlaced or segmented from format and will be illuminated Blue. Pressing the button again will allow selection of a progressive format and will be illuminated Magenta. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	New interlaced source or destination selected – Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	New progressive source or destination selected – Press the Rotary Encoder to confirm

23.98 PSF (Button)

Sets the frame rate of the currently selected input or output to 23.98 PSF. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently segmented frame input or output
Blue	Flashing	Update	New segmented frame source or destination selected – Press the Rotary Encoder to confirm
Magenta	Solid	All	Not available / Future expansion
Magenta	Flashing	Update	Not available / Future expansion

29.97 PSF (Button)

Sets the frame rate of the currently selected input or output to 29.97 PSF. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently segmented frame input or output
Blue	Flashing	Update	New segmented frame source or destination selected – Press the Rotary Encoder to confirm
Magenta	Solid	All	Not available / Future expansion
Magenta	Flashing	Update	Not available / Future expansion

25 PSF (Button)

Sets the frame rate of the currently selected input or output to 25 PSF. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently segmented frame input or output
Blue	Flashing	Update	New interlaced or segmented frame source or destination selected – Press the Rotary Encoder to confirm
Magenta	Solid	All	Not available / Future expansion
Magenta	Flashing	Update	Not available / Future expansion

24 PSF (Button)

Sets the frame rate of the currently selected input or output to either sf24 (segmented frame) or p24 (progressive). The first button press will allow selection of the segmented frame format and will be illuminated Blue. Pressing the button again will allow selection of the progressive format and will be illuminated Magenta. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected segmented frame input or output
Blue	Flashing	Update	New segmented frame source or destination selected – Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	New progressive source or destination selected – Press the Rotary Encoder to confirm

Aspect

ANA (Button)

Sets the aspect ratio of the selected processing channel to Anamorphic. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected processing channel for an interlaced or segmented frame format
Blue	Flashing	Update	New selection for an interlaced or segmented frame format - Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected processing channel for a progressive format
Magenta	Flashing	Update	New selection for a progressive format - Press the Rotary Encoder to confirm

COM TOP (Button)

Sets the aspect ratio of the selected processing channel to Common Top & Bottom. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected processing channel for an interlaced or segmented frame format
Blue	Flashing	Update	New selection for an interlaced or segmented frame format - Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected processing channel for a progressive format
Magenta	Flashing	Update	New selection for a progressive format - Press the Rotary Encoder to confirm

COM SIDE (Button)

Sets the aspect ratio of the selected processing channel to Common Sides. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected processing channel for an interlaced or segmented frame format
Blue	Flashing	Update	New selection for an interlaced or segmented frame format - Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected processing channel for a progressive format
Magenta	Flashing	Update	New selection for a progressive format - Press the Rotary Encoder to confirm

FLEX (Button)

Sets the aspect ratio of the selected processing channel to Flexview. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected processing channel for an interlaced or segmented frame format
Blue	Flashing	Update	New selection for an interlaced or segmented frame format - Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected processing channel for a progressive format
Magenta	Flashing	Update	New selection for a progressive format - Press the Rotary Encoder to confirm

14X9 (Button)

Sets the aspect ratio of the selected processing channel to 14:9. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected processing channel for an interlaced or segmented frame format
Blue	Flashing	Update	New selection for an interlaced or segmented frame format - Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected processing channel for a progressive format
Magenta	Flashing	Update	New selection for a progressive format - Press the Rotary Encoder to confirm

Note: VAR (Button) – Takes the user to the Variable Aspect Ratio menu.

Audio Select

SDI 1 (Button)

Assigns the embedded audio from the SDI 1 to the currently selected input or output channel. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	New interlaced or segmented frame source or destination selected – Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	New progressive source or destination selected – Press the Rotary Encoder to confirm
Off	N/A	All	Disabled if SDI 2 is selected as the input video source

SDI 2 (Button)

Assigns the embedded audio from the SDI 2 to the currently selected input or output channel. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	New interlaced or segmented frame source or destination selected – Press the Rotary Encoder to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	New progressive source or destination selected – Press the Rotary Encoder to confirm
Off	N/A	All	Disabled if SDI 1 is selected as the input video source

AES (Button)

Assigns AES audio to the currently selected input or output channel. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected input or output
Blue	Flashing	Update	New source or destination selected - Press the Rotary Encoder to confirm
Off	N/A	All	Disabled if the audio daughter board is not installed

ANA (Button)

Assigns Analog audio to the currently selected input or output channel. After selecting, press the Rotary Encoder to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected input or output
Blue	Flashing	Update	New source or destination selected - Press the Rotary Encoder to confirm
Off	N/A	All	Disabled if the audio daughter board is not installed

Note: AUDIO RESET (Button) – Not functional / Future expansion

AUDIO MENU (Button)

Takes the user to the top level Audio Menu in the MenuTree.

Button Color	State	Mode	Comments
Yellow	Solid	All	Takes you to the Audio Menu

Graphical User Interface (GUI) and Menu Controls

Soft Buttons (8 Buttons around display)

Assigned based on current MenuTree page

Button Color	State	Mode	Comments
Green	Solid	All	Available, but not selected
Yellow	Solid	All	Selected

Rotary Encoder

• Rotation – Used to navigate MenuTree or adjust sliders • Push – Used to select front panel button selections

Back (Button)

Takes the user to the previous menu - No LED is associated with this button

Home (Button)

Takes the user to the top of the MenuTree (Main Menu) - No LED is associated with this button

USB Port

Allows the user to Load user preset or logo files from a USB storage device to the VC100 or Save user preset files from the VC100 to a USB storage device.

Note: The USB port supports USB version 2.0 devices only

MENU (Button)

Switches the Control Panel LCD display from active video to the top level of the the MenuTree. If pressed again, it will switch the LCD display from the MenuTree back to active video (from the currently selected input or output channel). (Acts as a toggle, but always switches between active video and the top level of the the MenuTree.)

Button Color	State	Mode	Comments
Yellow	Solid	All	Alternates the display between active video and the MenuTree

Note: - Active video is not available on a Local Control Panel when the VC100 is in Service Mode.

Note: - Active video is not available on a Remote Control Panel (VC1-RCP).

SETUP (Button)

Takes you to the Setup Menu on the MenuTree

Button Color	State	Mode	Comments
Yellow	Solid	All	Takes you to the Setup Menu

PROC BYPS (Button)

All Proc Amp, Detail Enhance, and Sharpness settings are disabled

Button Color	State	Mode	Comments
Yellow	Solid	Update	Proc Amp settings are applied to the selected processing channel
Yellow	Flashing	Update	Proc Amp settings are disabled on the selected processing channel

Video Processing

VID LEV (Button)

Takes you to the VIDEO LEVEL control on the Proc Amp Menu of the MenuTree. The Rotary Encoder will then be used to adjust the VIDEO LEVEL.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Yellow	Flashing	Update	The control is active

BLK LEV (Button)

Takes you to the BLACK LEVEL control on the Proc Amp Menu of the MenuTree. The Rotary Encoder will then be used to adjust the BLACK LEVEL.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Blue	Flashing	Update	The control is active

SAT LEV (Button)

Takes you to the SATURATION LEVEL control on the Proc Amp Menu of the MenuTree. The Rotary Encoder will then be used to adjust the SATURATION LEVEL.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Blue	Flashing	Update	The control is active

HUE (Button)

Takes you to the HUE PHASE control on the Proc Amp Menu of the MenuTree. The Rotary Encoder will then be used to adjust the HUE PHASE..

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Blue	Flashing	Update	The control is active

R-Y (Button)

Takes the user to the R-Y LEVEL control on the Proc Amp Menu of the MenuTree. The Rotary Encoder will then be used to adjust the R-Y LEVEL.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Blue	Flashing	Update	The control is active

B-Y (Button)

Takes the user to the B-Y LEVEL control on the Proc Amp Menu of the MenuTree. The Rotary Encoder will then be used to adjust the B-Y LEVEL.

Button Color	State	Mode	Comments
Green	Solid	Update	Available, but not selected
Yellow	Flashing	Update	The control is active

Logo / Presets

TSG MENU (Button)

Takes the user to the Video Test Signal Generator Menu of the MenuTree.

Button Color	State	Mode	Comments
Yellow	Solid	Active	Takes you to the Test Generator Menu in the MenuTree

ID MENU (Button)

Not functional / Future expansion

LOGO MENU (Button)

Takes the user to the Logo Menu of the MenuTree.

Button Color	State	Mode	Comments
Yellow	Solid	Active	Takes you to the Logo Menu in the MenuTree

PRST MENU (Button)

Takes the user to the User Presets Menu of the MenuTree.

Button Color	State	Mode	Comments
Yellow	Solid	Active	Takes you to the Presets Menu in the MenuTree

User 1 (Button)

Not functional / Future expansion

User2 (Button)

Not functional / Future expansion

Audio Status & System Status

AUDIO STATUS (LED's 1 – 16)

Shows the status of the audio channels for the currently selected video processing channel.

Button Color	State	Mode	Comments
Red	Solid	All	Audio errors are present for selected processing channel
Yellow	Solid	All	DOLBY-E audio is present for selected processing channel
Green	Solid	All	Active audio is present for selected processing channel
Off	N/A	All	No audio is present for selected processing channel

Note: - Active video is not available on a Local Control Panel when the VC100 is in Service Mode.

PS1 (LED)

Shows the status of Power Supply 1

Button Color	State	Mode	Comments
Red	Flashing	All	Power Supply 1 has an Error condition
Green	Solid	All	Power Supply 1 is operating properly
Off	N/A	All	Power Supply 1 is not present

PS2 (LED)

Shows the status of Power Supply 2

Button Color	State	Mode	Comments
Red	Flashing	All	Power Supply 2 has an Error condition
Green	Solid	All	Power Supply 2 is operating properly
Off	N/A	All	Power Supply 2 is not present

REF1 (LED)

Shows the status of the signal on External Reference Input 1

Button Color	State	Mode	Comments
Red	Flashing	All	Reference 1 and the output PLL's are not locked
Yellow	Flashing	All	Reference 1 is locked but the output PLL's are not locked
Green	Solid	All	Reference 1 and the output PLL's are locked
Off	N/A	All	Processing channel 1 is set to Input reference

REF2 (LED)

Shows the status of the signal on External Reference Input 2

Button Color	State	Mode	Comments
Red	Flashing	All	Reference 2 and the output PLL's are not locked
Yellow	Flashing	All	Reference 2 is locked but the output PLL's are not locked
Green	Solid	All	Reference 2 and the output PLL's are locked
Off	N/A	All	Processing channel 2 is set to Input reference

IN1 (LED)

Shows the status of the signal assigned to the input of video processing channel 1

Button Color	State	Mode	Comments
Red	Flashing	All	No input has been detected
Yellow	Flashing	All	Input is detected but does not match the currently selected input format
Green	Solid	All	Input is valid

IN2 (LED)

Shows the status of the signal assigned to the input of video processing channel 2

Button Color	State	Mode	Comments
Red	Flashing	All	No input has been detected
Yellow	Flashing	All	Input is detected but does not match the currently selected input format
Green	Solid	All	Input is valid

SYS (LED)

Shows the status of the overall system

Button Color	State	Mode	Comments
Red	Flashing	All	Critical system error
Yellow	Flashing	All	Non-critical system error
Green	Solid	All	System is operating normally

USB (LED)

Shows the status of the USB Connection

Button Color	State	Mode	Comments
Green	Solid	All	USB memory device instaleld and activ
Off	N/A	All	No USB memory device inserted

Panel

PANL LOCK (Button)

Locks the Local Control Panel. To activate or deactivate the PANEL LOCK, press and hold the button for 2 seconds.

Button Color	State	Mode	Comments
Orange	Solid	Active	Control panel operative – press & hold 2 sec. to LOCK PANEL
Orange	Flashing	Active	Control panel locked – press & hold 2 sec. to UNLOCK PANEL

Note: - When the panel is locked, it will still update to show current status.

Power Switch

Inhibits both power supplies in the VC100 chassis (This control is not active when the panel is used in the remote configuration).

Button Color	State	Mode	Comments
Blue	Solid	Active	Power On
Off	N/A	All	Power Off

REM – TALLY (Button)

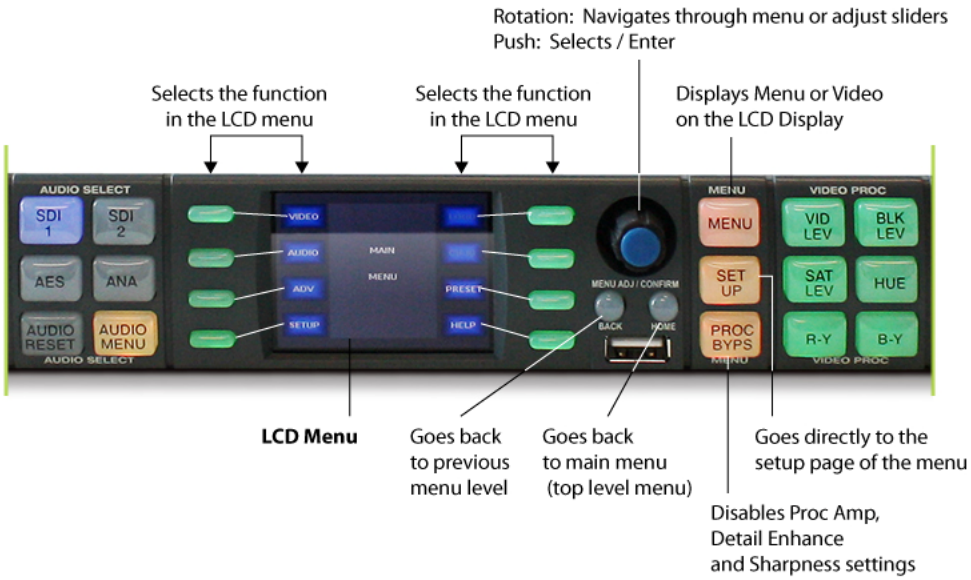
Allows the chassis to controlled by a remote control panel.

Button Color	State	Mode	Comments
Red	Solid	All	Prevents remote control panels from connecting to this chassis
Orange	Solid	All	Allow remote control panels to connect to this chassis

Graphical User Interface / LCD Menu

Another means of setting the VC100's parameters is through the LCD Menu, located on the Local Control Panel. The LCD display, as described earlier in this user manual, can display both video and a graphical user interface (LCD Menu).

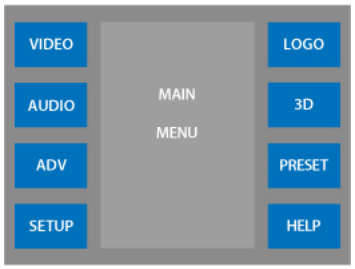
Operation of the LCD menu is described in the previous chapter. See the image below for basic access to and operation of the LCD Menu. The following section of this user manual goes through the LCD menu tree and describes every menu page.



MAIN Menu

The Main Menu is the top level menu in the VC100 Menu Tree. It provides access to the top level functions in the menu structure, which are listed below.

Navigation: Main Menu

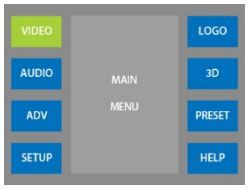


VIDEO – Takes the user to the primary Video menu
AUDIO – Takes the user to the primary Audio menu
ADV – Takes the user to the Advanced (features) menu
SETUP – Takes the user to the Setup menu
LOGO – Takes the user to the Logo menu
3D – Takes the user to the 3D menu
PRESET – Takes the user to the User Preset menu
HELP – Takes the user to the Help menu

- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

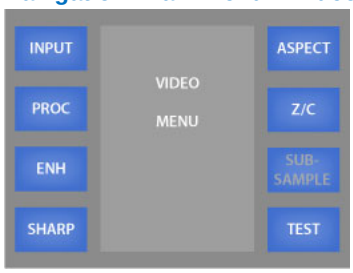
Note: You can always return to this menu, regardless of where you are in the Menu Tree, by pressing the Home button located under the Rotary Encoder on the Front panel.

Video Menu



The Video menu provides access to the following functions:

Navigation: Main Menu > Video



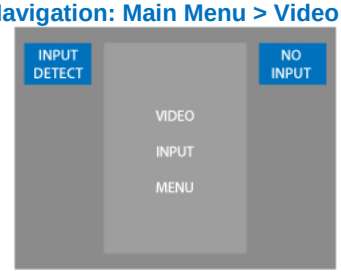
- INPUT –Takes the user to the Video Input menu
- PROC – Takes the user to the Proc (Amp) menu
- ENH – Allows the user to adjust the Detail Enhance setting
- SHARP – Allows the user to adjust the Sharpness setting
- ASPECT – Takes the user to the Aspect Ratio menu
- Z/C – Enables Zoom/Crop
- SUB-SAMPLE – For VC120 ONLY (click for VC120 Video Menu User Guide)
- TEST – Takes the user to the video Test Signal Generator menu

▶ Press the Back button to move to the previous menu.
▶ Press the Home button to go back to the Main menu

INPUT - Video Input Menu

The Video Input Menu allows the user to configure the input of the VC100 for automatic or manual format detection. This menu is also used to define which video signal will output when there is a loss of input video.

Navigation: Main Menu > Video > Input



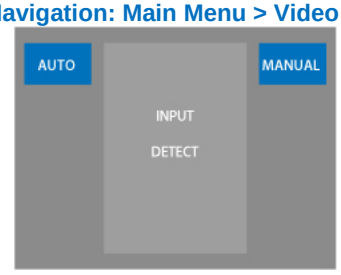
- INPUT DETECT – Takes the user to the INPUT DETECT menu for selection of Automatic or Manual input format detection
- NO INPUT – Takes the user to the NO INPUT menu for selection of the type of video that will be output when the video input is lost

▶ Press the Back button to move to the previous menu.
▶ Press the Home button to go back to the Main menu

INPUT DETECT Menu

The Input Detect menu enables automatic input format detection.

Navigation: Main Menu > Video > Input > Input Detect



- Auto – Enables automatic detection of the input format for the selected input source.
- Manual – Allows the user to manually select the input format via the front panel format selection buttons.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

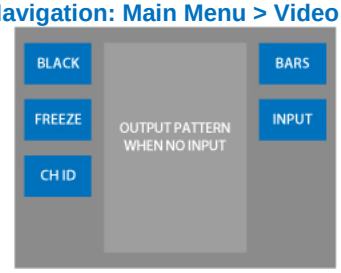
Note: Automatic input format detection is only available for SD/HD-SDI inputs at this time. Format selection for analog composite and analog component inputs must be done manually.

Note: This selection applies for the currently selected processing channel (e.g. In 1). If you have a two channel VC100, you must enable Automatic Input Format Detection independently for each video processing channel.

NO INPUT Menu

The No Input menu determines what signal the VC100 will output when the video input is lost.

Navigation: Main Menu > Video > Input > No Input



- BLACK – The VC100 will output Black on loss of video input
- FREEZE – Not functional / Future expansion
- CH ID - Not functional / Future expansion
- BARS – The VC100 will output Color Bars on loss of video input
- INPUT – Not functional / Future expansion

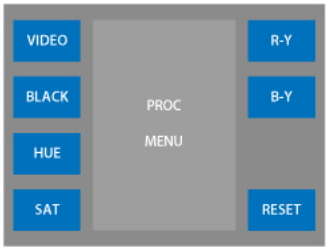
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: This selection applies for the currently selected processing channel (e.g. In 1). If you have a two-channel VC100, you must define a "No Input" video selection independently for each video processing channel.

PROC - Proc Amp Menu

The Proc Amp menu provides access to the following functions:

Navigation: Main Menu > Video > Proc or via Direct **VIDEO PROC** pushbuttons



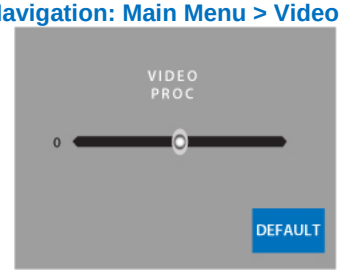
- VIDEO – Adjusts the Video Gain for the currently selected video processing channel
- BLACK – Adjusts the Black Level for the currently selected video processing channel
- HUE – Adjusts the Hue Phase for the currently selected video processing channel
- SAT – Adjusts the Saturation for the currently selected video processing channel
- R-Y – Adjusts the R-Y Level for the currently selected video processing channel
- B-Y – Adjusts the B-Y Level for the currently selected video processing channel
- RESET – Resets all Proc Amp settings to default values for the currently selected video processing channel

▶ Press the Back button to move to the previous menu.
▶ Press the Home button to go back to the Main menu

VIDEO - Video Gain Slider

Adjusts the Video Gain for the selected video processing channel.

Navigation: Main Menu > Video > Proc > Video



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -6.0dB to +6.0dB (displayed as -60 to +60 on the slider)
  - The default setting is 0dB

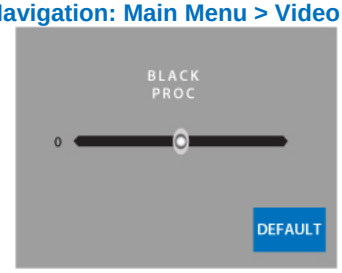
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: Video gain is defined as the range of light-to-dark values of the image, which are proportional to the voltage difference between the black and white voltage levels of the video signal. Video gain is related to the contrast of the video image.

BLACK - Black Level Slider

Adjusts the Black Level for the selected video processing channel.

Navigation: Main Menu > Video > Proc > Black



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -30mV to +30mV
  - The default setting is 0mV

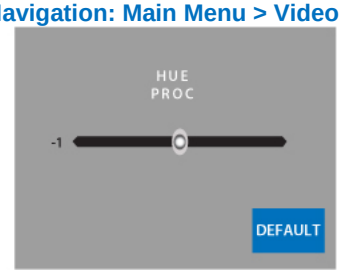
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: Black level is defined as the voltage, which represents the light level of a video signal reproducing the black areas of an image.

HUE - Hue Phase Slider

Adjusts the Hue Phase for the selected video processing channel.

Navigation: Main Menu > Video > Proc > Hue



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -179 degrees to +178 degrees
  - The default setting is 0 degrees

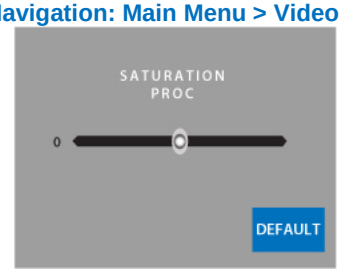
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: Hue is defined as the actual color that appears in a video image.

SATURATION - Saturation Level Slider

Adjusts the Saturation Level for the selected video processing channel.

Navigation: Main Menu > Video > Proc > Sat



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -6.0dB to +6.0dB
  - The default setting is 0dB

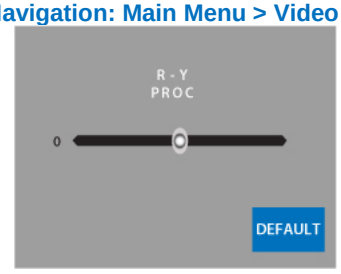
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: Saturation is defined as the ratio between luminance level and chrominance amplitude.

R-Y - Level Slider

Adjusts the R-Y Level for the selected video processing channel.

Navigation: Main Menu > Video > Proc > R-Y



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -200mV to +200mV
  - The default setting is 0mV

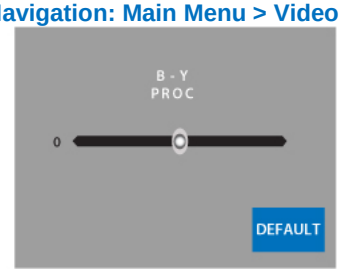
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: R-Y is defined as the primary Red channel minus luminance. Often referred to as a color difference channel. It is one of the three channels that make up a component signal.

B-Y - Level Slider

Adjusts the B-Y Level for the selected video processing channel.

Navigation: Main Menu > Video > Proc > B-Y



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -200mV to +200mV
  - The default setting is 0mV

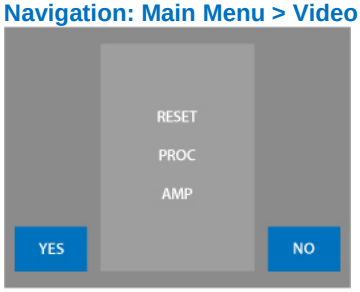
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: B-Y is defined as the primary Blue channel minus luminance. Often referred to as a color difference channel. It is one of the three channels that make up a component signal.

RESET - Reset Proc Amp Menu

Resets all PROC AMP levels to their default values.

Navigation: Main Menu > Video > Proc > Reset



- YES – Will reset all Proc amp levels (video gain, black level, hue, saturation, R-Y level, and B-Y level) back to their default values
- NO – Leaves all Proc amp settings at their current values

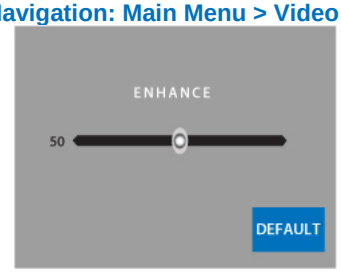
▶ Press the Back button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Proc Amp Function	Default Value
Video Gain	0 dB
Black Level	0 mV
Hue	0 degrees
Saturation	0 dB
R-Y Level	0 mV
B-Y Level	0 mV

ENH - Enhance Slider

Adjusts the Detail Enhancement setting for the selected video processing channel.

Navigation: Main Menu > Video > Enh



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 100
  - The default setting is 0

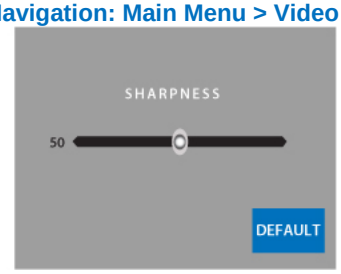
Press the Back button to move to the previous menu.
Press the Home button to go back to the Main menu

Note: Detail Enhance is based on a traditional film compositing technique called "Unsharp Masking." This edge-sharpening filter allows for both positive and negative aperture correction.

SHARP - Sharpness Slider

Adjusts the Sharpness setting for the selected video processing channel.

Navigation: Main Menu > Video > Sharp



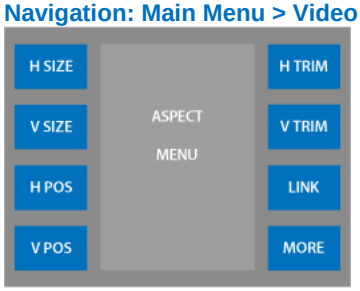
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 100
  - The default setting is 63

Press the Back button to move to the previous menu.
Press the Home button to go back to the Main menu

ASPECT - Aspect Ratio Menu

The Aspect (Ratio) menu provides access to the following functions:

Navigation: Main Menu > Video > Aspect



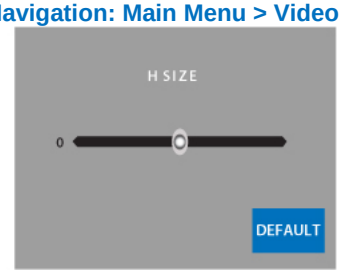
- H SIZE – Adjusts the Horizontal Size of the image
- V SIZE – Adjusts the Vertical Size of the image
- H POS – Adjusts the Horizontal Position of the image relative to the display window
- V POS – Adjusts the Horizontal Position of the image relative to the display window
- H TRIM – Adjusts the Horizontal Trim for the image
- V TRIM – Adjusts the Vertical Trim for the image
- LINK – Links the H & V size control together
- More – Takes the user to the second page of Aspect menus

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

H SIZE - Horizontal Size Slider

Adjusts the Horizontal Size of the image for the selected video processing channel.

Navigation: Main Menu > Video > Aspect > H Size



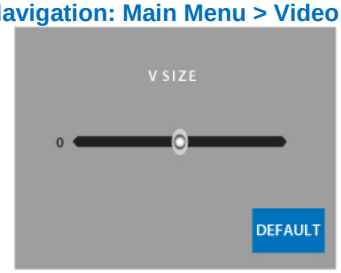
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -33 to +200 percent
  - The range of values displayed on the slider is determined by the chosen aspect ratio
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

V SIZE - Vertical Size Slider

Adjusts the Vertical Size of the image for the selected video processing channel.

Navigation: Main Menu > Video > Aspect > V Size



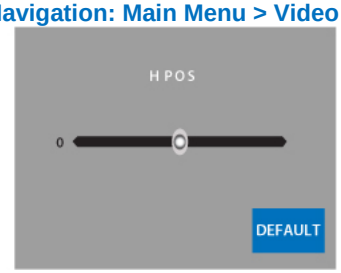
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -33 to +200 percent
  - The range of values displayed on the slider is determined by the chosen aspect ratio
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

H POS - Horizontal Position Slider

Adjusts the Horizontal Position of the image for the selected video processing channel.

Navigation: Main Menu > Video > Aspect > H Pos



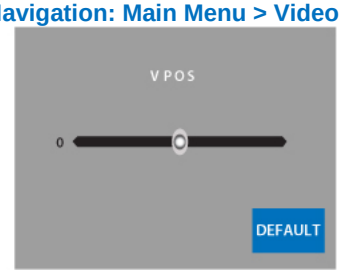
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is dependent on the current image size
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

V POS - Vertical Position Slider

Adjusts the Vertical Position of the image for the selected video processing channel.

Navigation: Main Menu > Video > Aspect > V Pos



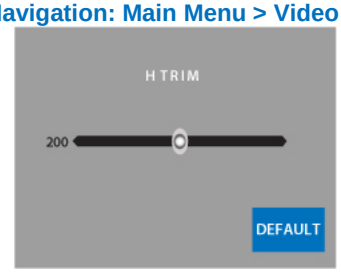
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is dependent on the current image size
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

H TRIM - Horizontal Trim Slider

Adjusts the Horizontal Trim of the image for the selected video processing channel.

Navigation: Main Menu > Video > Aspect > H Trim



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 200 pixels for standard definition formats and 0 to 400 pixels for high definition formats.
  - The default setting is 0 pixels for both SD & HD

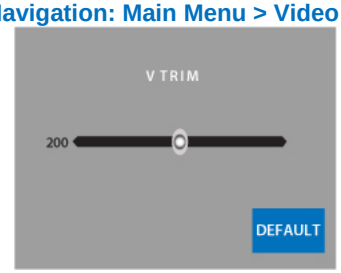
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The H Trim function crops the left and right sides of the image and pads it with black or the color chosen by the Fill function, if enabled.

V TRIM - Vertical Trim Slider

Adjusts the Vertical Trim of the image for the selected video processing channel.

Navigation: Main Menu > Video > Aspect > V Trim



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 200 lines for standard definition formats and 0 to 400 lines for high definition formats.
  - The default setting is 0 lines for both SD & HD

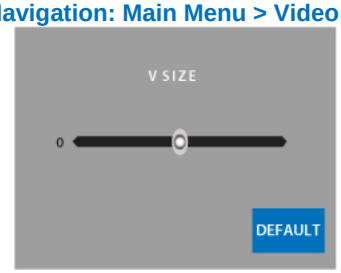
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The V Trim function crops the top and bottom of the image and pads it with black or the color chosen by the Fill function, if enabled.

LINK – H & V Aspect Link (ON/OFF)

Allows the user to link the Horizontal and Vertical Size adjustments for the selected video processing channel. When LINK is ON, the H SIZE slider will adjust both H and V size parameters simultaneously. The V SIZE soft button on the LCD menu will be unavailable (grayed out).

Navigation: Main Menu > Video > Aspect > Link



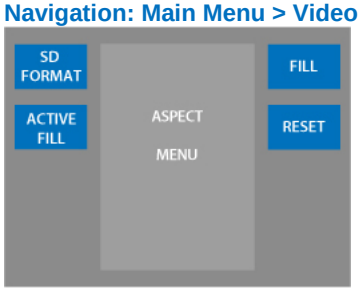
- ON – Links the H and V SIZE adjustments on the ASPECT MENU
- OFF – H and V size may be adjusted independently.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

MORE - Aspect Ratio Menu - Page 2

The Aspect Ratio (More) menu provides access to the following functions:

Navigation: Main Menu > Video > Aspect > More



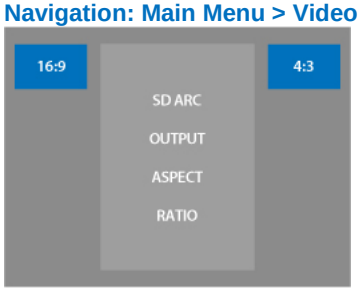
- SD FORMAT – Selects the output aspect ratio format for standard definition (SD) aspect ratio conversions
- ACTIVE FILL – Allows the user to enable the Active Fill Information mode to fill the blanking region in an up-conversion with a live video feed
- FILL – Allows the user to adjust the color of the fill used in aspect ratio conversions such as pillar box or letterbox
- RESET – Allows the user to Reset the Aspect to default values

▶ Press the Back button to move to the previous menu.
▶ Press the Home button to go back to the Main menu

SD FORMAT Menu

Selects the output aspect ratio format for standard definition (SD) aspect ratio conversions.

Navigation: Main Menu > Video > Aspect > More > SD Format



- 16:9 – Sets the output aspect ratio to 16:9
- 4:3 – Sets the output aspect ratio to 4:3

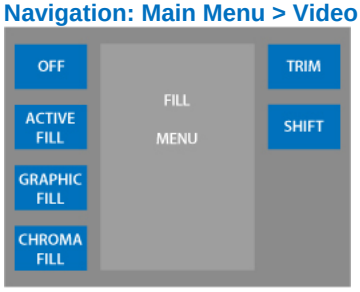
▶ Press the Back button to move to the previous menu.
▶ Press the Home button to go back to the Main menu

Note: Setting this control will affect the results of the aspect ratio conversion performed using the Common Top & Bottom, Common Sides, and Anamorphic buttons when the Input and Output formats are BOTH standard definition.

ACTIVE FILL Menu

Enables the Active Fill Information mode to fill the blanking region in an up-conversion with a live video feed.

Navigation: Main Menu > Video > Aspect > More > Active Fill



- OFF – Selecting OFF will turn off the Active Fill Information feature and return the system to its normal mode of operation
- ACTIVE FILL – Enables the Active Fill Information mode
- GRAPHIC FILL – Not available / Future expansion
- CHROMA FILL – Not available / Future expansion
- TRIM – Takes the user to the Trim menu
- SHIFT – Takes the user to the Shift menu

▶ Press the Back button to move to the previous menu.
▶ Press the Home button to go back to the Main menu

Note: This feature utilizes the VC100's channel 2 video input as the Active Fill video source. Enabling the Active Fill mode will automatically configure the VC100 to use its second processing channel as the source for the Active Video Fill. Both single-channel and dual-channel VC100's can utilize Active Fill. In dual-channel systems, the second channel cannot be used for other conversions while Active Fill is turned ON.

Selecting Active Fill configures the VC100 as follows:

- Turns ON Active Fill
- Auto-detects the video format present on processing channel 2 INPUT (SDI IN2) and sets the output of BOTH processing channels (SDI-1 and SDI-2) to that format
- Locks out control of processing channel 2 while Active Fill is engaged
- Routes the combined main/active fill video signal to the output of channel 2

Connections

- SDI IN 1: The main video feed to be up-converted
- SDI IN 2: The active fill information video feed
- SDI OUT 2A & 2B: The channel 2 output will have the combined main/active fill video

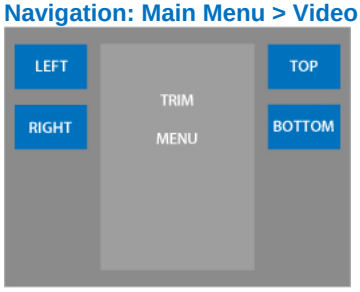
The Active Fill Information feature is available in the following format conversions

Input	Output	Input	Output
480i59.94	480i59.94 720p59.94 1080i59.94	576i50	576i50 720p50 1080i50

Note: Both channels must be referenced either to input or to the same external reference.

TRIM Menu

Navigation: Main Menu > Video > Aspect > More > Active Fill > Trim



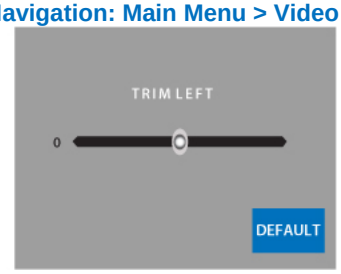
- LEFT: Trims the Left edge of the Active Fill region
- RIGHT: Trims the Right edge of the Active Fill region
- TOP: Trims the Top edge of the Active Fill region
- BOTTOM: Trims the Bottom edge of the Active Fill region

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The Trim values will be restored to the default values when an aspect ratio change is made.

LEFT - Trim Left Slider
Trims the Left edge of the Active Fill region.

Navigation: Main Menu > Video > Aspect > More > Active Fill > Trim > Left



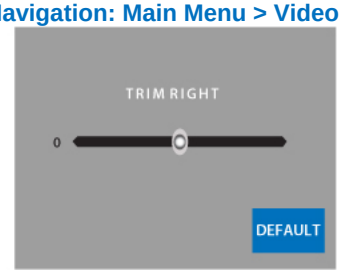
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 200 pixels
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The Trim values will be restored to the default values when an aspect ratio change is made.

RIGHT - Trim Right Slider
Trims the Right edge of the Active Fill region.

Navigation: Main Menu > Video > Aspect > More > Active Fill > Trim > Right



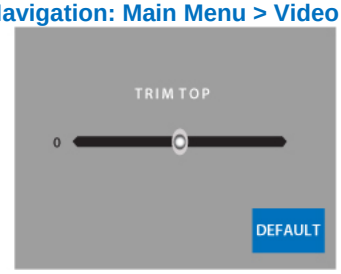
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 200 pixels
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The Trim values will be restored to the default values when an aspect ratio change is made

TOP - Trim Top Slider
Trims the Top edge of the Active Fill region

Navigation: Main Menu > Video > Aspect > More > Active Fill > Trim > Top



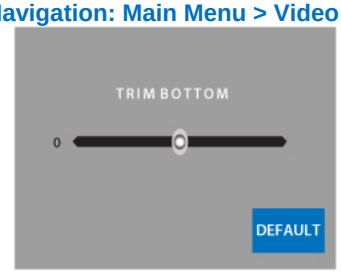
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 200 Lines
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The Trim values will be restored to the default values when an aspect ratio change is made

BOTTOM - Trim Bottom Slider
Trims the Bottom edge of the Active Fill region.

Navigation: Main Menu > Video > Aspect > More > Active Fill > Trim > Bottom



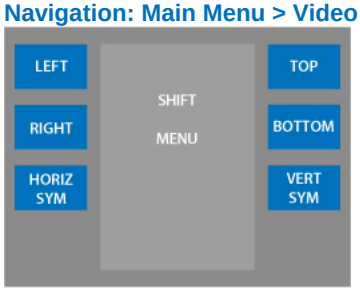
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 200 Lines
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The Trim values will be restored to the default values when an aspect ratio change is made

SHIFT Menu

Navigation: Main Menu > Video > Aspect > More > Active Fill > Shift



- LEFT: Moves the main video feed to the left edge of the image
- RIGHT: Moves the main video feed to the right edge of the image
- TOP: Moves the main video feed to the top edge of the image
- BOTTOM: Moves the main video feed to the bottom edge of the image
- HORIZ SYM: Centers the main video feed horizontally
- VERT SYM: Centers the main video feed vertically

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

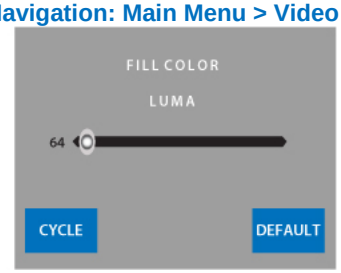
Note: The Shift settings do *not* reset when the aspect ratio is changed

Note: Shift left/right does a true shift of the main video feed while Shift top/bottom does a pan of the main video feed.

FILL - Fill Color Sliders (Luma)

Adjusts the Luminance Fill color.

Navigation: Main Menu > Video > Aspect > More > Fill



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 200 Lines
  - The default setting is 0

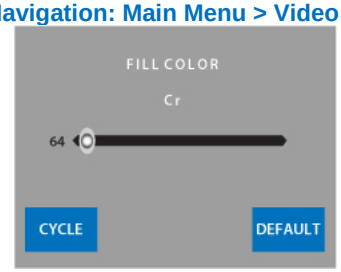
- Press **Cycle** to go to the Cr slider menu.
- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

Note: The Fill area is any area between the image and the edge of the raster. For example in an upconversion, with a common top & bottom aspect ratio you end up with a 4:3 image in a 16:9 window. The bars on either side of the image is the Fill area.

FILL - Fill Color Sliders (Cr)

Adjusts the Cr Fill color.

Navigation: Main Menu > Video > Aspect > More > Fill > Cycle



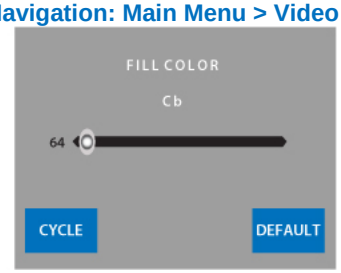
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 960
  - The default setting is 0

- Press **Cycle** to go to the Cb slider menu.
- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

Note: The Fill area is any area between the image and the edge of the raster. For example in an upconversion, with a common top & bottom aspect ratio you end up with a 4:3 image in a 16:9 window. The bars on either side of the image is the Fill area.

FILL - Fill Color Sliders (Cb)
Adjusts the Cb Fill color.

Navigation: Main Menu > Video > Aspect > More > Fill > Cycle



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 960
  - The default setting is 0

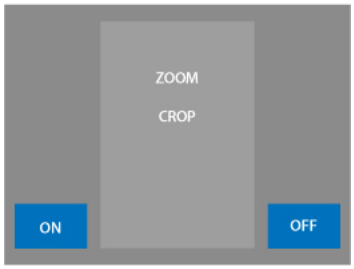
- Press **Cycle** to go to the Luma slider menu.
- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

Note: The Fill area is any area between the image and the edge of the raster. For example in an upconversion, with a common top & bottom aspect ratio you end up with a 4:3 image in a 16:9 window. The bars on either side of the image is the Fill area.

Z/C - Zoom/Crop Menu

The Zoom/Crop function is useful for eliminating edge effect artifacts caused by processing the edges of the image.

Navigation: Main Menu > Video > Z/C



- ON: Zooms IN the image by 3-pixels/3-lines and then crops it by 3-pixels/3-lines
- OFF: Leaves the image in the original format

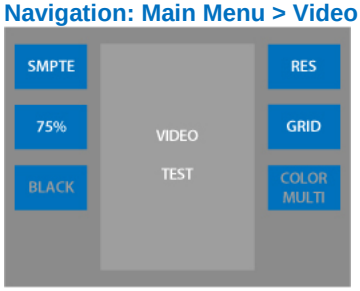
Press the **Back** button to move to the previous menu.
Press the **Home** button to go back to the Main menu

Video Menu

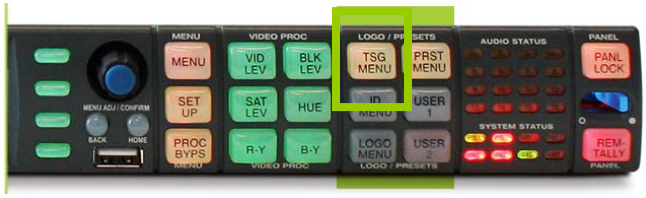
TEST - Test Pattern Generator Menu

The Video Test Signal Generator menu provides access to the following functions:

Navigation: Main Menu > Video > Test



or via Direct **TSG MENU** pushbutton



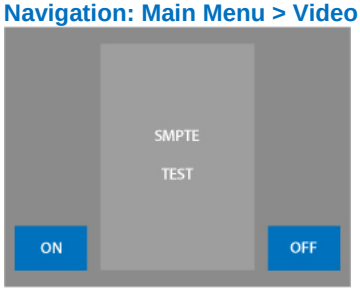
- SMPTE: Selects the SMPTE (Color Bar) Test Pattern
- 75%: Selects the 75% Color Bars Test Pattern
- BLACK: Not available in this release
- RES: Selects the Multiburst (RES) Test Pattern
- GRID: Selects the Grid Test Pattern
- COLOR MULTI: Not available in this release

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

SMPTE - Color Bars Menu

Selects the SMPTE (Color Bars) Test Pattern as the output of the currently selected video processing channel.

Navigation: Main Menu > Video > Test > SMPTE



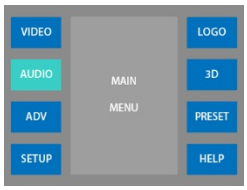
- ON: Turns ON the SMPTE Test Pattern on the output of the selected video processing channel
- OFF: Turns OFF the SMPTE Test Pattern on the output of the selected video processing channel

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: If a test pattern has been turned ON and you go Back to the Video Test menu, the other test patterns will not be available (i.e. they will be grayed out). To select a new test pattern, you must first turn OFF the current test pattern and then select the new test pattern.

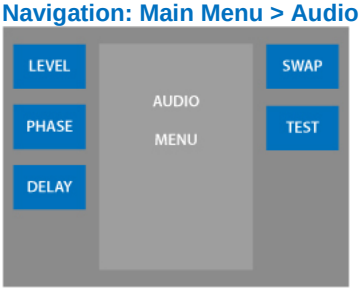
Note: The other test patterns (75%, Res, and Grid) are selected in the same manner as the SMPTE pattern.

Audio Menu



The Audio menu provides access to the following functions:

Navigation: Main Menu > Audio



or via Direct **AUDIO MENU** Pushbutton

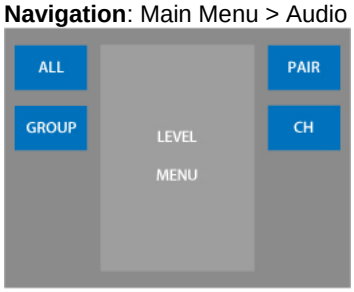
- LEVEL: Takes the user to the Audio Level adjustment menu
- PHASE: Takes the user to the Audio Phase adjustment menu
- DELAY: Takes the user to the Audio Delay adjustment menu
- SWAP: Takes the user to the Audio Swap menu
- TEST: Takes the user to the Audio Test Tone menu

Press the **Back** button to move to the previous menu.
Press the **Home** button to go back to the Main menu

LEVEL - Audio Level Menu

Allows the user to adjust the audio Level for the audio channels in the currently selected video processing channel.

Navigation: Main Menu > Audio > Level



- ALL: Adjusts the audio Level on all of the audio channels in the currently selected video processing channel
  - Selecting ALL will take the user directly to the audio Level adjustment slider
- GROUP: Adjusts the audio Level on the selected group of audio channels in the currently selected video processing channel
  - Selecting GROUP will take the user to a sub-menu to allow selection of the desired GROUP to be adjusted.
- PAIR: Adjusts the audio Level on the selected pair of audio channels in the currently selected video processing channel
  - Selecting PAIR will take the user to a sub-menu to allow selection of the desired PAIR to be adjusted.
- CH: Adjusts the audio Level on the selected audio channel in the currently selected video processing channel
  - Selecting CHANNEL will take the user to a sub-menu to allow selection of the desired CHANNEL to be adjusted.

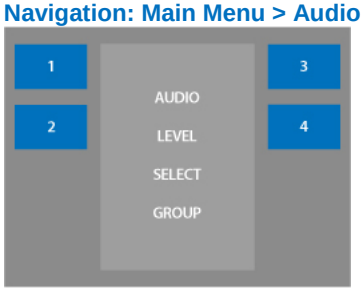
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The Channel Allocation setting in the System Setup Menu determines the number of audio channels available to each video processing channel. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

GROUP - Group Audio Level Menu

Selects the audio Group that will be affected by the audio Level adjustment.

Navigation: Main Menu > Audio > Level > Group



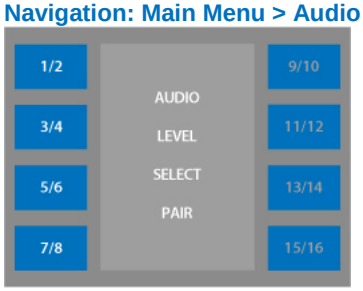
- 1: Adjusts the audio Level for the channels in Group 1 (channels 1 – 4)
- 2: Adjusts the audio Level for the channels in Group 2 (channels 5 – 8)
- 3: Adjusts the audio Level for the channels in Group 3 (channels 9 – 12)
- 4: Adjusts the audio Level for the channels in Group 4 (channels 13 – 16)
    - Selecting one of the Groups (above) will take you to the audio Level adjustment slider

Note: The number of audio groups available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

PAIR - Pair Audio Level Menu

Selects the audio Pair that will be affected by the audio Level adjustment.

Navigation: Main Menu > Audio > Level > Pair



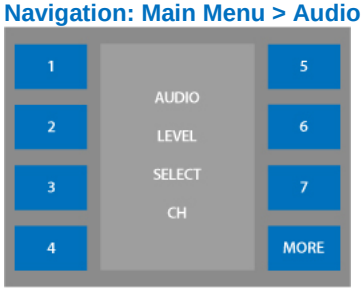
- 1/2 – Adjusts the audio Level for the channels in Pair 1/2 (channels 1 & 2)
- 3/4 – Adjusts the audio Level for the channels in Pair 3/4 (channels 3 & 4)
- 5/6 – Adjusts the audio Level for the channels in Pair 5/6 (channels 5 & 6)
- 7/8 – Adjusts the audio Level for the channels in Pair 7/8 (channels 7 & 8)
- 9/10 – Adjusts the audio Level for the channels in Pair 9/10 (channels 9 & 10)
- 11/12 – Adjusts the audio Level for the channels in Pair 11/12 (channels 11 & 12)
- 13/14 – Adjusts the audio Level for the channels in Pair 13/14(channels 13 & 14)
- 15/16 – Adjusts the audio Level for the channels in Pair 15/16 (channels 15 & 16)
    - Selecting one of the Pairs (above) will take you to the audio audio Level adjustment slider

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The number of audio pairs available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

CH - Channel Audio Level Menu

Navigation: Main Menu > Audio > Level > CH



Channel (Ch 1 - 7) - Selects the audio channel that will be affected by the audio Level adjustment.

- 1 – Adjusts the audio level for channel 1
- 2 – Adjusts the audio level for channel 2
- 3 – Adjusts the audio level for channel 3
- 4 – Adjusts the audio level for channel 4
- 5 – Adjusts the audio level for channel 5
- 6 – Adjusts the audio level for channel 6
- 7 – Adjusts the audio level for channel 7
- MORE – Takes the user to the next channel selection menu (Ch 8-14)
    - Selecting one of the channels (above) will take you to the audio Level adjustment slider

Channel (Ch 8 - 14) - Selects the audio channel that will be affected by the audio Level adjustment.

- 8 – Adjusts the audio level for channel 8
- 9 – Adjusts the audio level for channel 9
- 10 – Adjusts the audio level for channel 10
- 11 – Adjusts the audio level for channel 11
- 12 – Adjusts the audio level for channel 12
- 13 – Adjusts the audio level for channel 13
- 14 – Adjusts the audio level for channel 14
- MORE – Takes the user to the next channel selection menu (Ch 15-16)
    - Selecting one of the channels (above) will take you to the audio Level adjustment slider

Channel (Ch 15 - 16) - Selects the audio channel that will be affected by the audio Level adjustment.

- 15 – Adjusts the audio level for channel 15
- 16 – Adjusts the audio level for channel 16
    - Selecting one of the channels (above) will take you to the audio Level adjustment slider

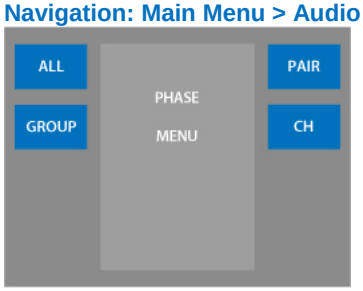
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The number of audio channels available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

PHASE - Audio Phase Menu

Adjusts the audio Phase for the audio channels in the currently selected video processing channel.

Navigation: Main Menu > Audio > Phase



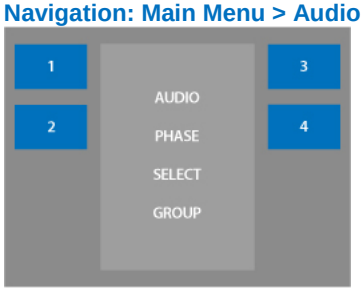
- ALL: Adjusts the audio Phase on all of the audio channels in the currently selected video processing channel
  - Selecting All will take you to the Audio Phase Adjustment menu
- GROUP: Adjusts the audio Phase on the selected group of audio channels in the currently selected video processing channel
- PAIR: Adjusts the audio Phase on the selected pair of audio channels in the currently selected video processing channel
- CH: Adjusts the audio Phase on the selected audio channel in the currently selected video processing channel

Note: The number of audio channels available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

GROUP - Group Audio Phase Menu

Selects the audio Group that will be affected by the audio Phase adjustment.

Navigation: Main Menu > Audio > Phase > Group



- 1 – Adjusts the audio phase for the channels in Group 1 (channels 1 – 4)
- 2 – Adjusts the audio phase for the channels in Group 2 (channels 5 – 8)
- 3 – Adjusts the audio phase for the channels in Group 3 (channels 9 – 12)
- 4 – Adjusts the audio phase for the channels in Group 4 (channels 13 – 16)
  - Selecting one of the Groups (above) will take you to the Audio Phase Adjustment menu

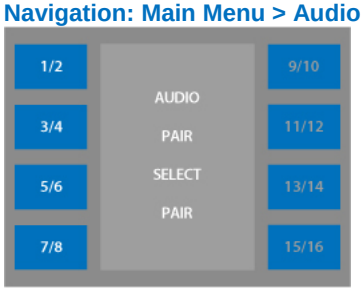
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The number of audio groups available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

PAIR - Pair Audio Phase Menu

Selects the audio Pair that will be affected by the audio Phase adjustment.

Navigation: Main Menu > Audio > Phase > Pair



- 1/2 – Adjusts the audio phase for the channels in Pair 1/2 (channels 1 & 2)
- 3/4 – Adjusts the audio phase for the channels in Pair 3/4 (channels 3 & 4)
- 5/6 – Adjusts the audio phase for the channels in Pair 5/6 (channels 5 & 6)
- 7/8 – Adjusts the audio phase for the channels in Pair 7/8 (channels 7 & 8)
- 9/10 – Adjusts the audio phase for the channels in Pair 9/10 (channels 9 & 10)
- 11/12 – Adjusts the audio phase for the channels in Pair 11/12 (channels 11 & 12)
- 13/14 – Adjusts the audio phase for the channels in Pair 13/14(channels 13 & 14)
- 15/16 – Adjusts the audio phase for the channels in Pair 15/16 (channels 15 & 16)
    - Selecting one of the Pairs (above) will take you to the Audio Phase Adjustment menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

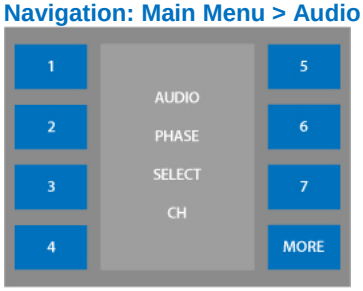
Note: The number of audio pairs available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

Audio Menu

CH - Channels Audio Phase Menu

Channel (Ch 1 - 7) - Selects the audio channel that will be affected by the audio phase adjustment.

Navigation: Main Menu > Audio > Phase > Ch



- 1 – Adjusts the audio phase for channel 1
- 2 – Adjusts the audio phase for channel 2
- 3 – Adjusts the audio phase for channel 3
- 4 – Adjusts the audio phase for channel 4
- 5 – Adjusts the audio phase for channel 5
- 6 – Adjusts the audio phase for channel 6
- 7 – Adjusts the audio phase for channel 7
- MORE – Takes the user to the next channel selection menu (Ch 8-14)
    - Selecting one of the Channels (above) will take you to the Audio Phase Adjustment menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Channel (Ch 8 - 14) - Selects the audio channel that will be affected by the audio phase adjustment.

- 8 – Adjusts the audio phase for channel 8
- 9 – Adjusts the audio phase for channel 9
- 10 – Adjusts the audio phase for channel 10
- 11 – Adjusts the audio phase for channel 11
- 12 – Adjusts the audio phase for channel 12
- 13 – Adjusts the audio phase for channel 13
- 14 – Adjusts the audio phase for channel 14
- MORE – Takes the user to the next channel selection menu (Ch 15-16)
    - Selecting one of the Channels (above) will take you to the Audio Phase Adjustment menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Channel (Ch 15 - 16) - Selects the audio channel that will be affected by the audio phase adjustment.

- 15 – Adjusts the audio phase for channel 15
- 16 – Adjusts the audio phase for channel 16
    - Selecting one of the Channels (above) will take you to the Audio Phase Adjustment menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: the Audio Allocation setting in the System Setup menu determines the number of audio groups available in the currently selected video processing channel. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

ALL - Phase Audio Adjust

Adjusts the audio Phase of the selected audio Group, Pair, Channel, or All in the currently selected video processing channel.

Navigation: Main Menu > Audio > Phase > All
or
Main Menu > Audio > Phase > Group > 1
or
Main Menu > Audio > Phase > Pair > 1/2
or
Main Menu > Audio > Phase > Ch > 1

- 0 DEG – Sets the audio phase to 0 degrees of the selected audio channel in the currently selected video processing channel.
- 180 DEG – Sets the audio phase to 180 degrees of the selected audio channel in the currently selected video processing channel.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

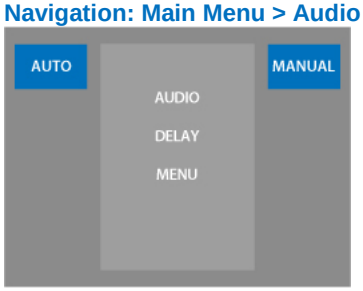
Note: The Audio Allocation setting in the System Setup menu determines the number of audio groups available in the currently selected video processing channel. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

Note: The audio phase menu will indicate whether you are adjusting the audio phase for All channels, a group of channels, a pair of channels, or an individual channel.

DELAY - Audio Delay Menu

The Audio Delay menu allows the user to configure the system for automatic audio delay or manual adjustment.

Navigation: Main Menu > Audio > Delay



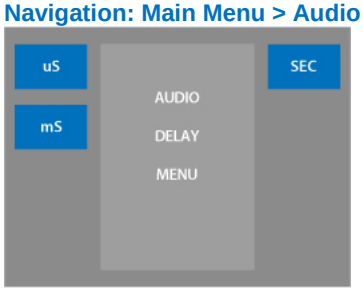
- AUTO: Not functional / Future expansion
- MANUAL: Selects the Manual delay mode

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

MANUAL - Manual Audio Delay Menu

Allows the audio Delay to be manually adjusted for the currently selected video processing channel. This will affect all channels currently assigned.

Navigation: Main Menu > Audio > Delay > Manual

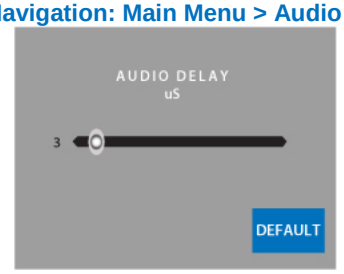


- Audio Delay (uS): Takes the user to the microsecond adjustment slider.
- Audio Delay (mS): Takes the user to the millisecond adjustment slider
- Audio Delay (Sec): Takes the user to the second adjustment slider

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

uS - Microsecond Audio Delay Slider
Adjusts the audio delay, in Microsecond increments, of the audio channels in the currently selected video processing channel.

Navigation: Main Menu > Audio > Delay > Manual > uS



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 49uS
  - The default setting is 3uS

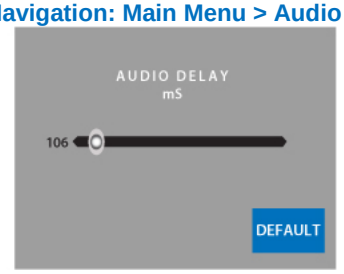
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: When adjusting the audio delay, the total delay will be a cumulative effect of all three audio delay sliders: microseconds + milliseconds + seconds.

Note: The sub-menu for Audio Delay indicates that the units of measurement are displayed in microseconds (uSec). The units are actually related in “audio samples.” An audio sample is approximately 20 uSec.

mS - Millisecond Audio Delay Slider
Adjusts the audio delay, in Millisecond increments, of the audio channels in the currently selected video processing channel.

Navigation: Main Menu > Audio > Delay > Manual > mS



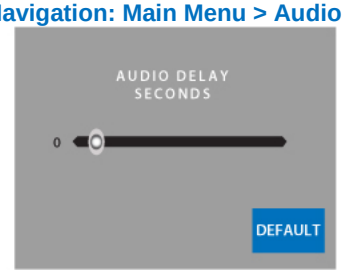
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 999mS
  - The default setting is 106mS

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: When adjusting the audio delay, the total delay will be a cumulative effect of all three audio delay sliders: microseconds + milliseconds + seconds.

SEC - Second Audio Delay Slider
Adjusts the audio delay, in one Second increments, of the audio channels in the currently selected video processing channel.

Navigation: Main Menu > Audio > Delay > Manual > Sec



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 4 seconds
  - The default setting is 0 seconds

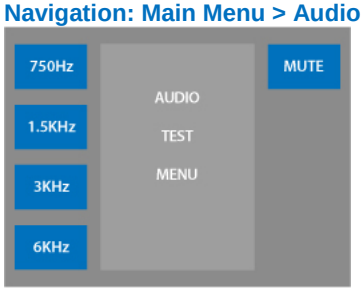
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: When adjusting the audio delay, the total delay will be a cumulative effect of all three audio delay sliders: microseconds + milliseconds + seconds.

TEST - Audio Test Menu

The Audio Test menu provides access to the following functions:

Navigation: Main Menu > Audio > Test

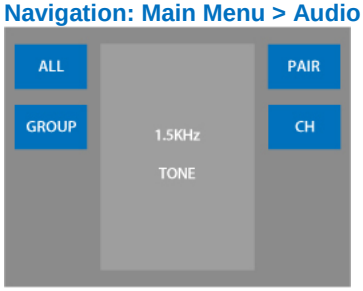


- 750Hz: Enables a 750Hz audio tone for the selected audio channel(s)
- 1.5kHz: Enables a 1.5kHz audio tone for the selected audio channel(s)
- 3kHz: Enables a 3kHz audio tone for the selected audio channel(s)
- 6kHz: Enables a 6kHz audio tone for the selected audio channel(s)
- Mute: Mutes the selected audio channel(s)

Select Audio Test Menu

Allows the user to enable the selected test tone on a group, pair, channel or all basis in the currently selected video processing channel.

Navigation: Main Menu > Audio > Test > 1.5kHz



- ALL: Enable/disables the audio test tone on all of the audio channels in the currently selected video processing channel
  - Selecting All will take you to the Audio Test Tone Enable Menu
- GROUP: Enable/disables the audio test tone on the selected group of audio channels in the currently selected video processing channel
- PAIR: Enable/disables the audio test tone on the selected pair of audio channels in the currently selected video processing channel
- CH: Enable/disables the audio test tone on the selected audio channel in the currently selected video processing channel

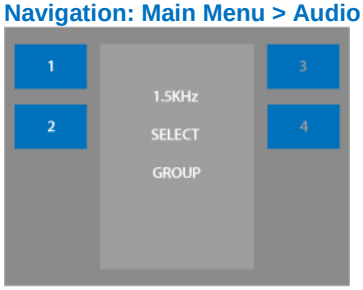
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The process is the same for selecting the 750Hz, 1.5kHz, 3kHz, or 6kHz test tones and for Mute.

Note: The Audio Allocation setting in the System Setup menu determines the number of audio channels available in the currently selected video processing channel. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

GROUP - Group Audio Test Menu
Selects the audio Group that the selected audio test tone will be enabled on

Navigation: Main Menu > Audio > Test > 1.5kHz - Group

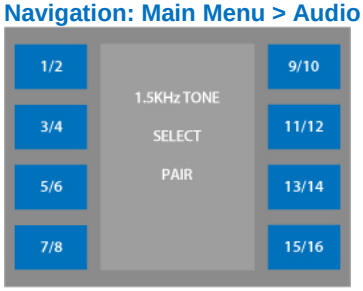


- 1: Enables the selected audio test tone for the channels in Group 1 (channels 1 – 4)
- 2: Enables the selected audio test tone for the channels in Group 2 (channels 5 – 8)
- 3: Enables the selected audio test tone for the channels in Group 2 (channels 9 – 12)
- 4: Enables the selected audio test tone for the channels in Group 2 (channels 13 – 16).
    - Selecting the of the Groups will take you to the Audio Test Tone Enable Menu

Note: The Audio Allocation setting in the System Setup menu determines the number of audio groups available in the currently selected video processing channel. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

PAIR - Pair Audio Test Menu
Selects the audio Pair that the selected audio test tone will be enabled on

Navigation: Main Menu > Audio > Test > 1.5kHz - Pair



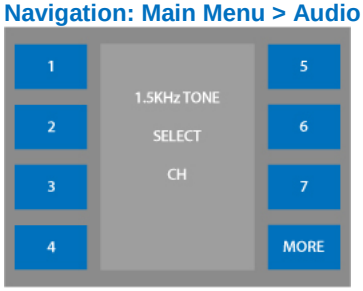
- 1/2: Enables the selected audio test tone for the channels in Pair 1/2 (channels 1 & 2)
- 3/4: Enables the selected audio test tone for the channels in Pair 3/4 (channels 3 & 4)
- 5/6: Enables the selected audio test tone for the channels in Pair 5/6 (channels 5 & 6)
- 7/8: Enables the selected audio test tone for the channels in Pair 7/8 (channels 7 & 8)
- 9/10: Enables the selected audio test tone for the channels in Pair 9/10 (channels 9 & 10)
- 11/12: Enables the selected audio test tone for the channels in Pair 11/12 (channels 11 & 12)
- 13/14: Enables the selected audio test tone for the channels in Pair 13/14(channels 13 & 14)
- 15/16: Enables the selected audio test tone for the channels in Pair 15/16 (channels 15 & 16)
    - Selecting the of the Pairs will take you to the Audio Test Tone Enable Menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: the Audio Allocation setting in the System Setup menu determines the number of audio pairs available in the currently selected video processing channel. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

CH - Channels Audio Test Menu
Selects the audio Channel (1 - 7) that the selected audio test tone will be enabled on.

Navigation: Main Menu > Audio > Test > 1.5kHz > Ch



- 1: Enables the selected audio test tone for channel 1
- 2: Enables the selected audio test tone for channel 2
- 3: Enables the selected audio test tone for channel 3
- 4: Enables the selected audio test tone for channel 4
- 5: Enables the selected audio test tone for channel 5
- 6: Enables the selected audio test tone for channel 6
- 7: Enables the selected audio test tone for channel 7
- MORE – Takes the user to the next channel selection menu (Ch 8-14)
    - Selecting a Channel will take you to the Audio Test Tone Enable Menu

Selects the audio Channel (8 - 14) that the selected audio test tone will be enabled on:

- 8: Enables the selected audio test tone for channel 8
- 9: Enables the selected audio test tone for channel 9
- 10: Enables the selected audio test tone for channel 10
- 11: Enables the selected audio test tone for channel 11
- 12: Enables the selected audio test tone for channel 12
- 13: Enables the selected audio test tone for channel 13
- 14: Enables the selected audio test tone for channel 14
- MORE – Takes the user to the next channel selection menu (Ch 15-16)
    - Selecting a Channel will take you to the Audio Test Tone Enable Menu

Selects the audio Channel (15 - 16) that the selected audio test tone will be enabled on:

- 15: Enables the selected audio test tone for channel 15
- 16: Enables the selected audio test tone for channel 16
    - Selecting a Channel will take you to the Audio Test Tone Enable Menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The Audio Allocation setting in the System Setup menu determines the number of audio channels available in the currently selected video processing channel. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

ALL - Test Audio Enable Menu
Enables the selected audio Test tone for the selected group, pair, channel or all.

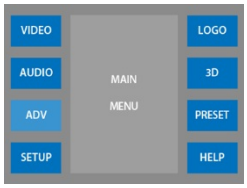
Navigation: Main Menu > Audio > Test > 1.5kHz -> All
or
Main Menu > Audio > Test > 1.5kHz > Group > 1
or
Main Menu > Audio > Test > 1.5kHz > Pair > 1/2
or
Main Menu > Audio > Test > 1.5kHz > Ch > 1

- ON: Enables the selected audio test tone
- OFF: Disables the selected audio test tone

Press the **Back** button to move to the previous menu.
Press the **Home** button to go back to the Main menu

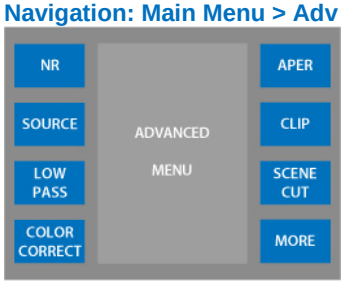
Note: The Audio Allocation setting in the System Setup menu determines the number of audio channels available in the currently selected video processing channel. Refer to the Channel Allocation Menu (Setup > Audio > Chan) for further details on channel allocation.

Advanced Menu



The Advanced menu provides access to the following functions:

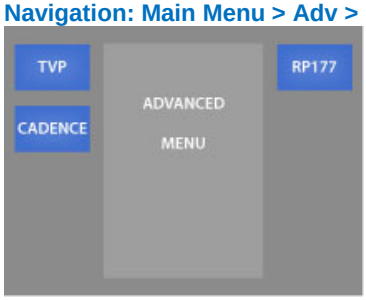
Navigation: Main Menu > Adv



- NR: Takes the user to the Noise Reduction menu
- SOURCE: Takes the user to the Source menu
- LOW PASS: Not available / Future Expansion
- COLOR CORRECT: Takes the user to the RGB color correction sliders
- APER: Adjusts the Aperture filter used in frame-rate conversions
- CLIP: Takes the user to the Clip menu
- SCENE CUT: Takes the user to the Scene Cut menu
- MORE: Takes the user to the second page of Advanced menus

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Navigation: Main Menu > Adv > More



This is the second page of the Advanced menu.

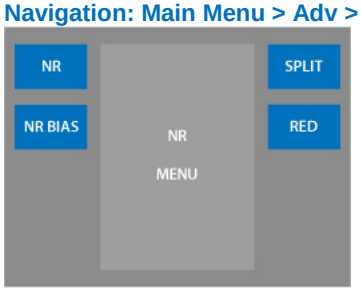
- TVP: Takes the user to the TVP menu
- CADENCE: Takes the user to the Clean Cadence menu
- RP177: Takes the user to the RP177 menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

NR - Noise Reduction Menu

Takes the user to the Noise Reduction menu.

Navigation: Main Menu > Adv > NR



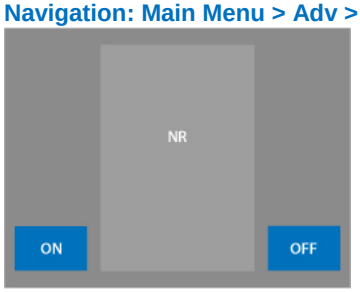
- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

Note: The Noise Reducer is a motion adaptive temporal recursive filter that works well in removing random and Gaussian noise. Each pixel is labeled as motion, no motion, or noise. Each of these classes of pixels is treated differently in the noise reduction process. For pixels in which there is no motion, low-level Gaussian noise may be reduced via temporal processing by a weighted averaging over successive frames. For pixels labeled as random noise, spatial processing replaces these pixels. Pixels labeled as being “in motion” are retained “as is” to avoid artifacts that may be introduced through temporal processing.

NR - Noise Reduction Enable Menu

The NR menu enables the Noise Reduction option of the VC100.

Navigation: Main Menu > Adv > NR > NR



- ON: Enables Noise Reduction
- OFF: Disables Noise Reduction

- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

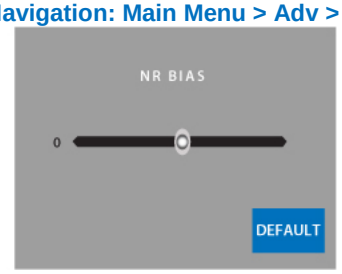
Note: At present, noise reduction is not supported in frame-rate conversion applications. See the table below for supported formats:

Input	Output	Input	Output
480i59.94	480i59.94 720p59.94 1080i59.94	720p59.94	480i59.94 720p59.94 1080i59.94
1080i59.94	480i59.94 720p59.94 1080i59.94	576i50	576i50 720p50 1080i50
720p50	576i50 720p50 1080i50	1080i50	576i50 720p50 1080i50
1080sf23.98	480i59.94 720p59.94 1080i59.94 1080sf23.98	1080sf24	1080sf24
1080sf25	576i50 720p50 1080i50 1080sf25		

NR BIAS - Noise Reduction Bias Level Slider

The Bias menu adjusts the noise reduction Bias level.

Navigation: Main Menu > Adv > NR > NR Bias



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -6dB to +6dB
  - The default setting is 0dB

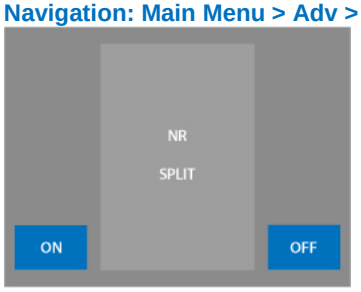
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The Bias level sets the threshold between when an object is considered noise and when it is considered to be in motion.

SPLIT - Split Screen Menu

The Split Screen menu Enables/Disables the noise reduction Split Screen mode.

Navigation: Main Menu > Adv > NR > Split



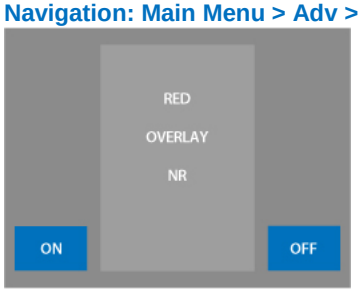
- ON: Enables the Noise Reduction, Split Screen mode. In this mode the image is divided vertically. The Left half of the image will not have any noise reduction applied. The Right half of the image will have noise reduction applied
- OFF: Disables the Noise Reduction, Split Screen mode

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

RED - Red Overlay Menu

The Red (Overlay) menu Enables/Disables the noise reduction Red overlay.

Navigation: Main Menu > Adv > NR > Red



- ON: Enables the Noise Reduction, Red Overlay. In this mode, pixels that are interpreted as in motion will be colored red
- OFF: Disables the Noise Reduction, Red Overlay

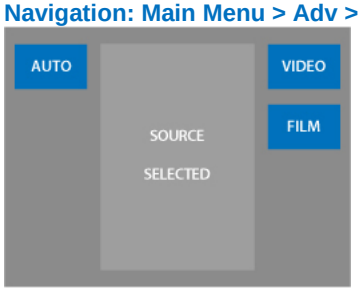
- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

Note: In the Temporal Recursive Filter, the red overlay will show the pixels in the image that have been determined to be in motion. These pixels will not have any noise reduction applied to them. This helps to identify which pixels the temporal recursive filter is processing.

SOURCE Menu

The Source menu provides access to the following features:

Navigation: Main Menu > Adv > Source



- Auto: Select this mode if the source material is a mixture of film and video. This mode selects a compromise algorithm that will look for film- and video-based material. For best results when the source material is known to be exclusively either film or video, select the Film or Video modes below
- Film: Select this mode when the source material is film-originated. This mode will optimize the algorithms for processing film-originated material
- Video: Select this mode if the source material is interlaced video material. This mode will optimize the algorithms for processing interlaced material

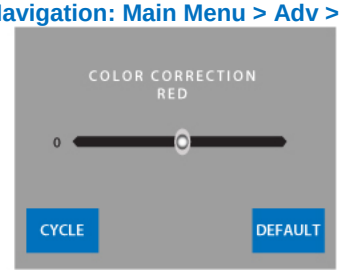
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

COLOR CORRECT Menu

Color Correct Sliders (Red)

Adjusts the Red Gain slider.

Navigation: Main Menu > Adv > Color Correct



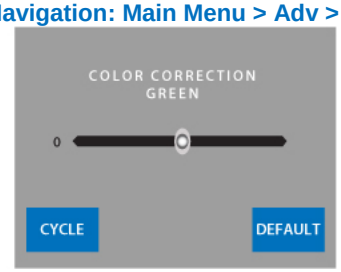
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -200 to +200
  - The default setting is 0

- Press the **Cycle** button to go to the Green slider menu
- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

Color Correct Sliders (Green)

Adjusts the Green Gain slider.

Navigation: Main Menu > Adv > Color Correct > Cycle



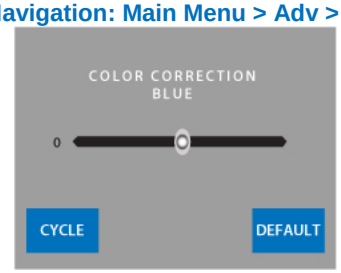
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -200 to +200
  - The default setting is 0

- Press the **Cycle** button to go to the Blue slider menu
- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

Color Correct Sliders (Blue)

Adjusts the Blue Gain slider.

Navigation: Main Menu > Adv > Color Correct > Cycle



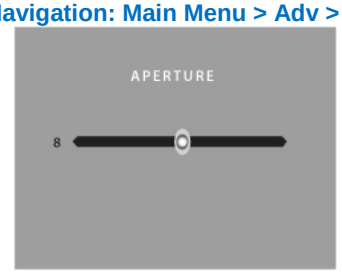
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is -200 to +200
  - The default setting is 0

- Press the **Cycle** button to go to the Red slider menu
- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

APER - Aperture Menu

The Aperture menu allows the user to adjust the Aperture slider for frame-rate conversions.

Navigation: Main Menu > Adv > Aper



- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 3
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

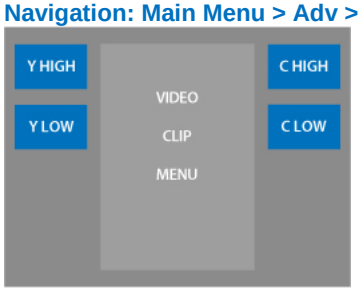
Note: The Aperture slider is only available when performing a frame-rate conversion. See the Tables for SD frame frate-conversions and SD/HD frame-rate conversions for a list of framerate conversions.

Note: When performing a frame rate conversion, the interpolation aperture is used to set the characteristics of the filter used to create the synthetic information in a frame rate conversion. A setting of 0 (drama) will give a sharper image with more potential for judder in motion areas. A setting of 3 (sport) will give a softer image with more blur in motion areas.

CLIP - Clip Video Menu

The Clip menu allows access to the following features:

Navigation: Main Menu > Adv > Clip



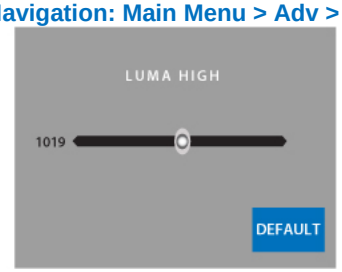
- Y HIGH: Adjusts the Luma high Clip level
- Y LOW: Adjusts the Luma low Clip level
- C HIGH: Adjusts the Chroma high Clip level
- C LOW: Adjusts the Chroma low Clip level

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Y HIGH - Y High Clip Slider

The Y High slider adjusts the Luma (Luminance) high Clip level.

Navigation: Main Menu > Adv > Clip > Y High



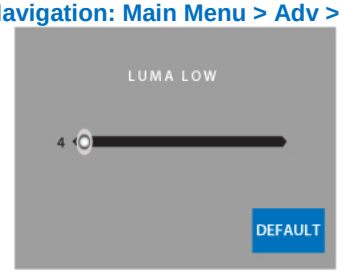
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 1023
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Y LOW - Y Low Clip Slider

The Y Low slider adjusts the Luma (Luminance) low Clip level.

Navigation: Main Menu > Adv > Clip > Y Low



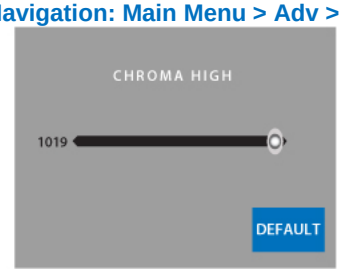
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 1023
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

C HIGH - C High Clip Slider

The C High slider adjusts the Chroma high Clip level.

Navigation: Main Menu > Adv > Clip > C High



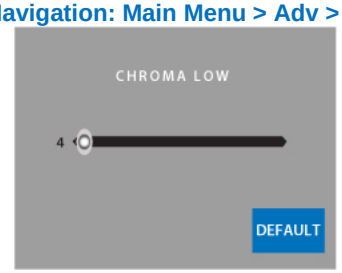
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 1023
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

C LOW - C Low Clip Slider

The C Low slider adjusts the Chroma low Clip level.

Navigation: Main Menu > Adv > Clip > C Low



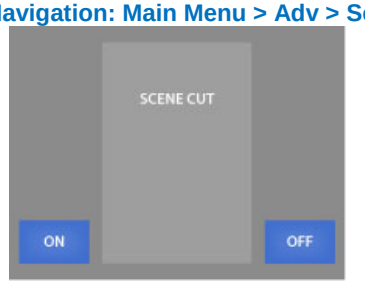
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 0 to 1023
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

SCENE CUT Menu

The Scene Cut menu allows the user to enable or disable scene cut detection. which preserves clean cuts between scenes. Upon detecting a cut, the temporal aperture is reduced from 4 fields to 2 fields for the first frame in the new scene. This prevents fields from the previous scene and the new scene from being mixed in the conversion process at scene boundaries.

Navigation: Main Menu > Adv > Scene Cut



Note: This menu is ON when shipped from the factory.

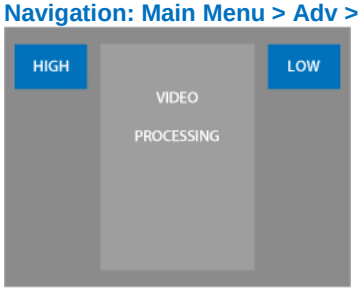
- ON: Enables Scene Cut Detection
- OFF: Disables Scene Cut Detection

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

TVP Menu

The TVP menu sets the video processing mode of the system to High or Low.

Navigation: Main Menu > Adv > More > TVP



- High: Sets the video processing mode to the highest quality. The processing delay through the VC100 will be 4 frames
- Low: Sets the video processing mode to a lower quality, which will reduce the processing delay to 2 frames through VC100

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

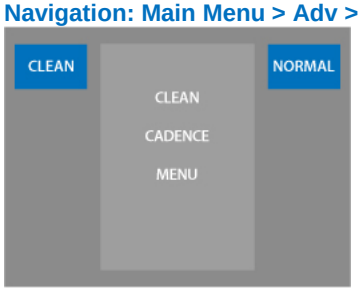
Note: Noise Reduction will not function when the VC100 is operating in the TVP Low mode.

CADENCE - Clean Cadence Menu

The Clean Cadence Menu allows the user to remove broken, non standard and mixed cadences and creates a clean 3:2 sequence from a source that originally contained film-based material. Clean Cadence is available for the following conversions:

- 480i59.94 to 480i59.94
- 480i59.94 to 1080i59.94
- 1080i59.94 to 480i59.94
- 1080i59.94 to 1080i59.94

Navigation: Main Menu > Adv > More > Cadence



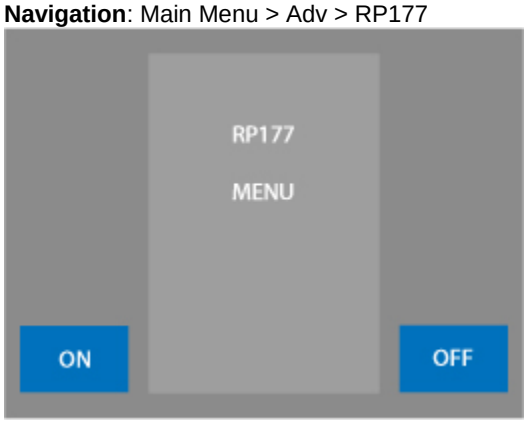
- Cadence: Selects the Clean Cadence mode
- Normal: Selects the Normal mode of operation where the system does not create a clean 3:2 sequence

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

RP177 Menu

The RP177 menu enables the RP177 colorspace.

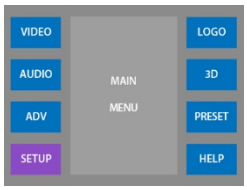
Navigation: Main Menu > Adv > RP177



- ON: Enables the RP177 colorspace
- OFF: Disables the RP177 colorspace

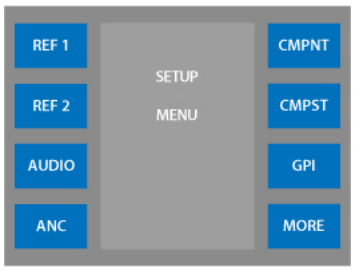
Note: SMPTE RP177 is intended to define the numerical procedures for deriving basic color equations for color television and other systems using additive display devices.

Setup Menu



Takes the user to the Setup menu:

Navigation: Main Menu > Setup



or via Direct **SETUP** Pushbutton

- REF 1: Takes the user to the External Reference 1 menu
- REF 2: Takes the user to the External Reference 2 menu
- AUDIO: Takes the user to the Audio (Setup) menu
- ANC: Takes the user to the Ancillary Data Menu
- CMPNT: Takes the user to the Analog Component I/O (Setup) menu
- CMPST: Takes the user to the Analog Composite I/O (Setup) menu
- GPI: Takes the user to the General Purpose Interface, GPI (Setup) menu
- MORE: Takes the user to the page 2 of the Setup menus

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Setup Menu - page 2

- KEY: Used to enter the System Access Key
- DISPLAY: Not functional / Future expansion
- SECTION: Not functional / Future expansion
- RMT IP: Set the IP of the VC100 chassis that the Remote Control Panel will communicate with
- IP: Allows the user to set the IP address for the chassis
- PNL IP: Allow the user to set the IP address for the Front Panel
- RS PORT: Allows the user to configure the RS port
- RESET: Used to reformat internal solid state drives for preset and logo storage

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

REF 1 - Reference 1 Menu

The Ref 1 menu allows the user to select the desired reference for video processing Channel 1 (CH1) or Channel 2 (CH2) of the system.

The user may either reference CH 1 to the video "Input" of CH1 or to an external reference signal supplied to the REF1 BNC connector on the rear panel.

PLEASE NOTE: Beginning with Phase 8 (80.20.x.304), a single external reference input maybe used for DUAL-CHANNEL SYSTEMS. Connect your reference signal to the REF 1 input BNC on the rear of the chassis. The REF 1 input choice will now be available to you in the SETUP Menu for BOTH CH 1 and CH2. In this case, CH 2 may be locked to external BLACK, TRI-I or TRI-P, depending on the output format currently selected on CH 2. If your facility uses multiple reference types, we DO NOT recommend the use of a SINGLE reference input to the chassis because of reference conflict issues that can arise between users of dual-channel systems.

Valid external reference signals are dependent on the OUTPUT format conversion chosen by the user. The REF 1 Menu, shown below, will display only the reference types that are allowed for the currently selected OUTPUT format. Invalid reference types will be "grayed out" in the menu.

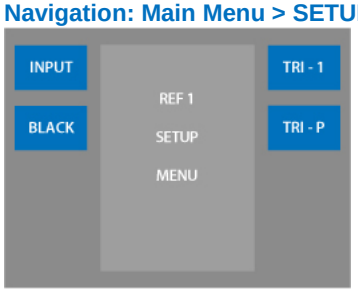
- For SD interlaced output formats (e.g. 480i59.94, 576i50), the VC100 will accept ONLY black burst (BLACK) as the external reference. The frame rate must match the output format (59.94 or 50).

- For HD interlaced output formats (e.g. 1080i59.94, 1080i50), the VC100 will accept either black burst (BLACK) or tri-level interlaced (TRI-I), in the respective frame rate (59.94 or 50).

- For HD progressive output formats (e.g. 720p59.94 or 720p50), the VC100 will accept either black burst or tri-level progressive (TRI-P), in the respective frame rate (59.94 or 50).

Examples:
1) Output = 480i59.94, Ref = Black burst(59.94 Hz); Tri-I and Tri-P selections will be unavailable.
2) Output = 576i50, Ref = Black burst (50 Hz); Tri-I and Tri-P selections will be unavailable.
3) Output = 1080i59.94, Ext Ref. = Black (59.94) OR Tri-I (59.94); Tri-P selection will be unavailable.
4) Output = 720p59.94, Ext Ref. = Black (59.94) or Tri-P (59.94); Tri-I selection will be unavailable.
5) Output = 1080psf23.98, Ext Ref. = Black (59.94) or Tri-I (59.94); Tri-P selection will be unavailable.

Navigation: Main Menu > SETUP > REF1



- INPUT: Selects the current input video source as the reference for video processing channel 1 *(Not available when REF 1 is being used as reference for CH 2)*
- BLACK: Selects analog blackburst as the reference
- TRI-I: Selects HD tri-level sync (interlaced) as the reference
- TRI-P: Selects HD tri-level sync (progressive) as the reference

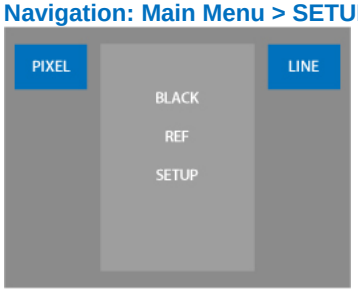
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The VC100 does NOT auto-detect the reference source. If you choose one of the external reference types and the reference is lost, the system will go into a free-run condition until the reference is reestablished. The Video Output of the VC100 will be lost (NO OUTPUT).

BLACK Menu

The BLACK menu sets analog blackburst as the reference for video processing channel 1 and allows adjustment of the pixel and line timing parameters.

Navigation: Main Menu > SETUP > REF1 > BLACK



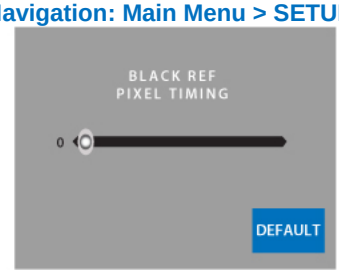
- PIXEL: Adjusts the Pixel timing of the output relative to the analog blackburst reference
- LINE: Adjusts the Line timing of the output relative to the analog blackburst reference

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

PIXEL - Blackburst Signal Pixel Timing Slider

Adjusts the Pixel timing of the output relative to the analog blackburst reference for video processing channel 1.

Navigation: Main Menu > SETUP > REF1 > BLACK > PIXEL

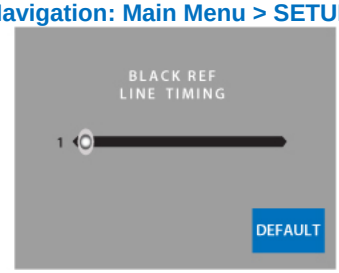


- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value.
    - The range of adjustment is based on the current input/output format selection

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

LINE - Blackburst Signal Line Timing Slider
Adjusts the Line timing of the output relative to the analog blackburst reference for video processing channel 1.

Navigation: Main Menu > SETUP > REF1 > BLACK > LINE



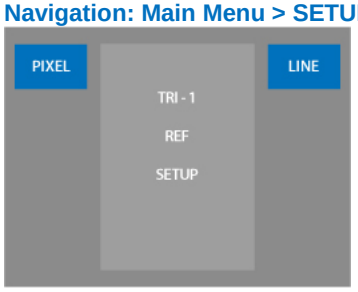
- To adjust, turn the Rotary Encoder on the control panel. You may also press the top left soft button to decrement by one unit or the top right soft button to increment by one unit.
- Press the Default soft button to go back to the default value
    - The range of adjustment is based on the current input/output format selection

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

TRI - I - Interlaced Tri-level Signal Menu

The Tri-I menu sets HD tri-level sync (interlaced) as the reference for video processing channel 1 and allows adjustment of the pixel and line timing parameters.

Navigation: Main Menu > SETUP > REF1 > TRI-I

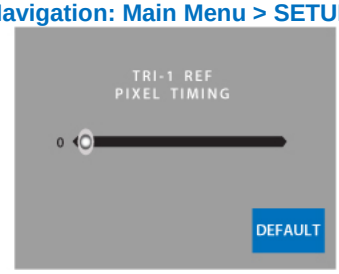


- PIXEL: Adjusts the Pixel timing of the output relative to the HD tri-level sync (interlaced) reference
- LINE: Adjusts the Line timing of the output relative to the HD tri-level sync (interlaced) reference

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

PIXEL - Interlaced Signal Pixel Timing Slider
Adjusts the Pixel timing of the output relative to the HD tri-level sync (interlaced) reference for video processing channel 1.

Navigation: Main Menu > SETUP > REF1 > TRI-I > PIXEL

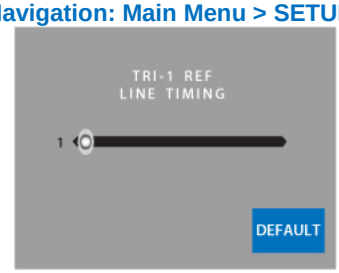


- To adjust, turn the Rotary Encoder on the control panel. You may also press the top left soft button to decrement by one unit or the top right soft button to increment by one unit.
- Press the Default soft button to go back to the default value
    - The range of adjustment is based on the current input/output format selection

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

LINE - Interlaced Signal Line Timing Slider
Adjusts the Line timing of the output relative to the HD tri-level sync (interlaced) reference for video processing channel 1.

Navigation: Main Menu > SETUP > REF1 > TRI-I > LINE



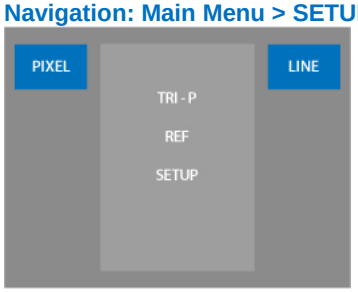
- To adjust, turn the Rotary Encoder on the control panel. You may also press the top left soft button to decrement by one unit or the top right soft button to increment by one unit.
- Press the Default soft button to go back to the default value
    - The range of adjustment is based on the current input/output format selection

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

TRI - P - Progressive Tri-level Signal Menu

The Tri-P menu sets HD tri-level sync (progressive) as the reference for video processing channel 1 and allows adjustment of the timing parameters.

Navigation: Main Menu > SETUP > REF1 > TRI-P



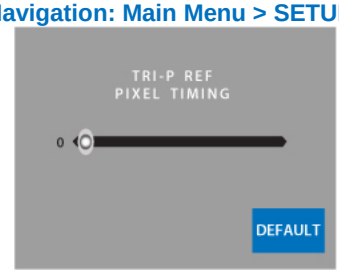
- PIXEL: Adjusts the Pixel timing of the output relative to the HD tri-level sync (progressive) reference
- LINE: Adjusts the Line timing of the output relative to the HD tri-level sync (progressive) reference

Press the **Back** button to move to the previous menu.
Press the **Home** button to go back to the Main menu

PIXEL - Progressive Signal Pixel Timing Slider

Adjusts the Pixel timing of the output relative to the HD tri-level sync (progressive) reference.

Navigation: Main Menu > SETUP > REF1 > TRI-P > PIXEL

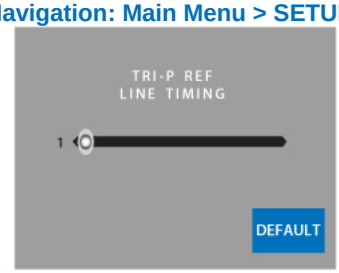


- To adjust, turn the Rotary Encoder on the control panel. You may also press the top left soft button to decrement by one unit or the top right soft button to increment by one unit.
- Press the Default soft button to go back to the default value
    - The range of adjustment is based on the current input/output format selection.

Press the **Back** button to move to the previous menu.
Press the **Home** button to go back to the Main menu

LINE - Progressive Signal Line Timing Slider
Adjusts the Line timing of the output relative to the HD tri-level sync (progressive) reference.

Navigation: Main Menu > SETUP > REF1 > TRI-P > LINE



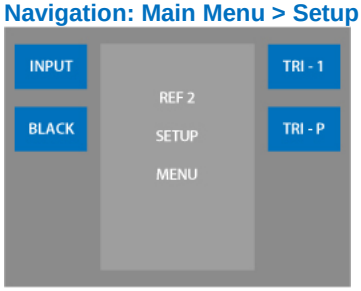
- To adjust, turn the Rotary Encoder on the control panel. You may also press the top left soft button to decrement by one unit or the top right soft button to increment by one unit.
- Press the Default soft button to go back to the default value
    - The range of adjustment is based on the current input/output format selection.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

REF 2 - Reference 2 Menu

The Ref 2 menu provides access to the following features:

Navigation: Main Menu > Setup > Ref 2



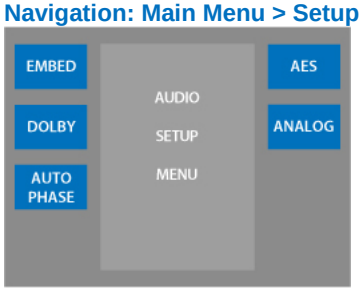
- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

Note: Refer to External Reference 1 Menu for details on the controls available in the Ref 2 menu.

AUDIO - Setup Audio Menu

The Audio (Setup) menu provides access to the following features:

Navigation: Main Menu > Setup > Audio



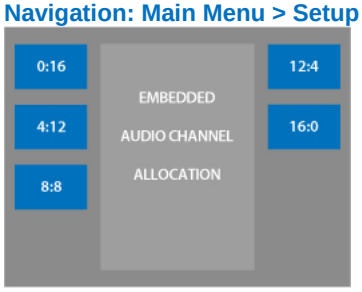
- EMBED: Takes the user to the Embedded Audio setup menu
- DOLBY: Takes the user to the Dolby Decoder setup menu (grayed out is not licensed for this feature)
- AUTO PHASE: Takes the user to the Auto Phase menu
- AES: Takes the user to the AES Audio setup menu
- ANALOG: Takes the user to the Analog Audio setup menu

EMBED - Embedded Audio Channel Allocation Menu

The Embedded Audio Channel Allocation menu allows the user to determine the number of embedded audio channels available in each video processing channel.

NOTE: This menu is not available if the VC1-AEM Audio Expansion Module is installed.

Navigation: Main Menu > Setup > Audio > Embed



- 0:16: Zero (0) audio channels are assigned to video processing channel 1 and sixteen (16) audio channels are assigned to video processing channel 2
- 4:12: Four (4) audio channels are assigned to video processing channel 1 and twelve (12) audio channels are assigned to video processing channel 2
- 8:8: Eight (8) audio channels are assigned to video processing channel 1 and eight (8) audio channels are assigned to video processing channel 2. This is the default setting
- 12:4: Twelve (12) audio channels are assigned to video processing channel 1 and four (4) audio channels are assigned to video processing channel 2
- 16:0: Sixteen (16) audio channels are assigned to video processing channel 1 and zero (0) audio channels are assigned to video processing channel 2

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: This menu only applies to a VC100 in a 2 channel configuration. A two channel configuration means that the system has two completely independent video processing channels. The VC100 has a total of 16

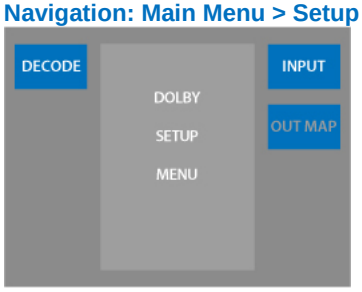
audio channels. In the default setting, there are 8 audio channels allocated, or assigned, to each video processing channel. If additional audio channels are needed for one of the video processing channels, they may reallocated from the other video processing channel in groups of four. So, if you require 12 channels of audio for video processing channel 1, then there would be 4 channels left for video processing channel 2.

Note: The designation in the menu of x:x refers to the number of audio channels allocated to video processing channel 1 relative to the number of audio channels allocated to video processing channel 2. (e.g. 12:4)

DOLBY - Dolby Setup Menu

The Dolby Setup menu allows the user to configure the Dolby-E decoder module option.

Navigation: Main Menu > Setup > Audio > Dolby



- Decode: Takes the user to the Dolby-E Decoder enable menu
- Input: Takes the user to the Dolby-E Decoder Input channels selection menu
- Out Map: Not functional / Future expansion

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

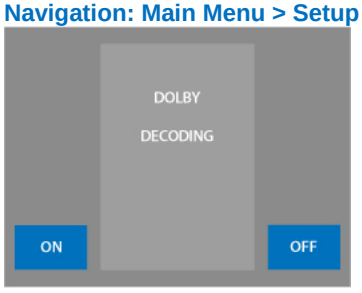
Note: At present, the Dolby-E decoded channels are assigned to audio channels 1 through 8 for video processing channel 1 and to channels 9 though 16 for video processing channel 2.

Note: The Dolby-E Decoder function requires the VC1-DOLBY-DEC option module to be installed. In a dual channel system, one module would be required for each processing channel, if needed.

DECODE - Dolby Decoding Menu

The Decode menu allows the user to Enable/Disable the Dolby-E decoder module for the selected video processing channel.

Navigation: Main Menu > Setup > Audio > Dolby > Decode



- ON: Enables Dolby-E decoding for the selected video processing channel
- OFF: Disables Dolby-E decoding for the selected video processing channel

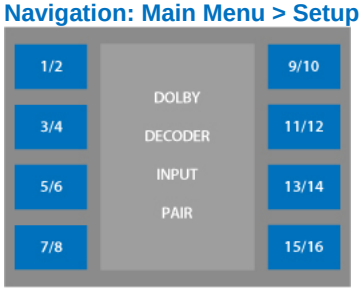
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: At present the Dolby-E decoded channels are assigned to audio channel 1 through 8 for video processing channel 1 and to channels 9 through 16 for video processing channel 2.

Note: The Dolby-E Decoder function requires the VC1-DOLBY-DEC option module to be installed. In a dual channel system, one module would be required for each processing channel, if needed.

INPUT - Dolby Input Menu
The Dolby Input menu selects which audio PAIR will be routed to the input to the Dolby-E decoder.

Navigation: Main Menu > Setup > Audio > Dolby > Input



- 1/2: Channels 1 & 2 are routed to the input of the Dolby-E decoder
- 3/4: Channels 3 & 4 are routed to the input of the Dolby-E decoder
- 5/6: Channels 5 & 6 are routed to the input of the Dolby-E decoder
- 7/8: Channels 7 & 8 are routed to the input of the Dolby-E decoder
- 9/10: Channels 9 & 10 are routed to the input of the Dolby-E decoder
- 11/12: Channels 11 & 12 are routed to the input of the Dolby-E decoder
- 13/14: Channels 13 & 14 are routed to the input of the Dolby-E decoder
- 15/16: Channels 15 & 16 are routed to the input of the Dolby-E decoder

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Out Map (Dolby) Menu

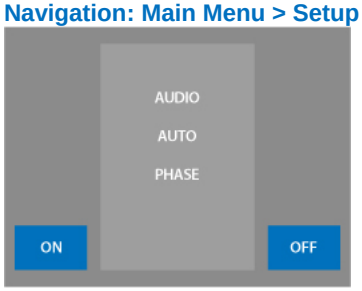
The Dolby-E decoder module will output up to eight channel of audio. At present they are assigned to the Channels 1 to 8 in the VC100. The content of each channel is defined by the Dolby-E Encoding mode that was used as shown in the following table.

Dolby E Program Config or Dolby Digital Coding Mode	Main Output Channel Assignment							
	CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8
5.1+2	1L	1R	1C	1LFE	1Ls	1Rs	2L	2L
5.1+1+1	1L	1R	1C	1LFE	1Ls	1Rs	2L	3C
4+4	1L	1R	1C	1S	2C	2S	2L	2R
4+2+2	1L	1R	1C	1S	3L	3R	2L	2R
4+2+1+1	1L	1R	1C	1S	3C	4C	2L	2R
4+1+1+1+1	1L	1R	1C	1S	4C	5C	2C	3C
2+2+2+2	1L	1R	3L	3R	4L	4R	2L	2R
2+2+2+1+1	1L	1R	3L	3R	4C	5C	2L	2R
2+2+1+1+1+1	1L	1R	3C	4C	5C	6C	2L	2R
2+1+1+1+1+1+1	1L	1R	4C	5C	6C	7C	2C	3C
1+1+1+1+1+1+1+1	1L	2C	3C	4C	5C	6C	7C	8C
5.1	1L	1R	1C	1LFE	1Ls	1Rs	None	None
4+2	1L	1R	1C	1S	None	None	2L	2R
4+1+1	1L	1R	1C	1S	None	None	2C	3C
2+2+2	1L	1R	3L	3R	None	None	2L	2R
2+2+1+1	1L	1R	3C	4C	None	None	2L	2R
2+1+1+1+1	1L	1R	4C	5C	None	None	2C	3C
1+1+1+1+1+1	1C	2C	3C	4C	5C	6C	None	None
4	1L	1R	1C	1S	None	None	None	None
2+2	1L	None	None	None	None	None	2L	2R
2+1+1	1L	1R	None	None	None	None	2C	3C
1+1+1+1	1C	2C	3C	4C	None	None	None	None
3/2L (Dolby Digital)	1L	1R	1C	1LFE	1Ls	1Rs	None	None
3/2 (Dolby Digital)	1L	1R	1C	None	1Ls	1Rs	None	None
2/2L (Dolby Digital)	1L	1R	None	1LFE	1Ls	1Rs	None	None
2/2 (Dolby Digital)	1L	1R	None	None	1Ls	1Rs	None	None
3/1L (Dolby Digital)	1L	1R	1C	1LFE	1S	None	None	None
3/1 (Dolby Digital)	1L	1R	1C	None	1S	None	None	None
2/1L (Dolby Digital)	1L	1R	None	1LFE	1S	None	None	None
2/1 (Dolby Digital)	1L	1R	None	None	1S	None	None	None
3/0L (Dolby Digital)	1L	1R	1C	1LFE	None	None	None	None
3/0 (Dolby Digital)	1L	1R	1C	None	None	None	None	None
2/0 (Dolby Digital)	1L	1R	None	None	None	None	None	None
1/0 (Dolby Digital)	None	None	1C	None	None	None	None	None
1+1 (Dolby Digital)	1C	2C	None	None	None	None	None	None
PCM	1L	1R	None	None	None	None	None	None

AUTO PHASE Menu

The Audio Auto Phase Menu allows the user to enable audio error checking, which detects audio phase errors. When "Auto Phase" is turned ON, the VC100 will attempt to maintain the phase of all audio channels. If errors are detected, the VC100 will attempt to align them; however, this may result in audible "pops" or "clicks" in the output audio. When "Auto Phase" is turned OFF, the errors will be passed through to the output, which may cause errors in down-stream processing equipment.

Navigation: Main Menu > Setup > Audio > Auto Phase



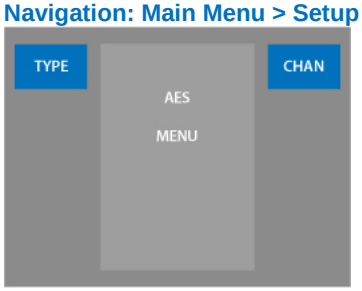
- ON: Enables Auto Phase for the selected video processing channel
- OFF: Disables Auto Phase for the selected video processing channel

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

AES Menu

The AES (Setup) menu allows the user to configure the AES audio option for balanced or unbalanced operation.

Navigation: Main Menu > Setup > Audio > AES

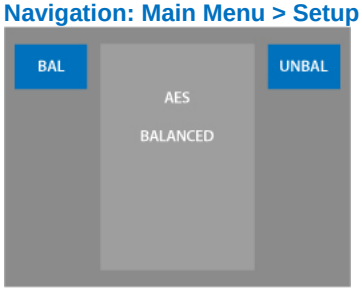


- TYPE: Takes the user to the AES TYPE audio setup menu
- CHAN: Takes the user to the AES Channel Allocation Menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

AES TYPE
The AES TYPE (Setup) menu allows the user to configure the AES audio option for balanced or unbalanced operation.

Navigation: Main Menu > Setup > Audio > AES > Type

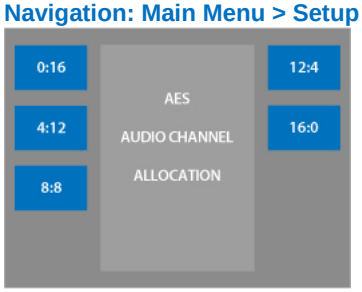


- BAL: Sets the AES audio input & output to the Balanced format
- UNBAL: Sets the AES audio input & output to the Unbalanced format

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

AES CHAN
The AES CHAN (Setup) menu allows the user to allocate AES audio channels from the optional VC1-AAIO module to the two video processing channels. This menu is only available in dual-channel units and when the AAIO option board is installed.

Navigation: Main Menu > Setup > Audio > AES > Chan



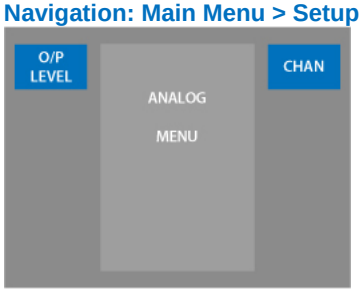
- 0:16: Zero (0) audio channels are assigned to video processing channel 1 and sixteen (16) audio channels are assigned to video processing channel 2
- 4:12: Four (4) audio channels are assigned to video processing channel 1 and twelve (12) audio channels are assigned to video processing channel 2
- 8:8: Eight (8) audio channels are assigned to video processing channel 1 and eight (8) audio channels are assigned to video processing channel 2. This is the default setting
- 12:4: Twelve (12) audio channels are assigned to video processing channel 1 and four (4) audio channels are assigned to video processing channel 2
- 16:0: Sixteen (16) audio channels are assigned to video processing channel 1 and zero (0) audio channels are assigned to video processing channel 2

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu.

ANALOG - Analog Audio Setup Menu

The Analog Audio Setup menu allows the user to configure the analog audio output reference levels and perform channel allocation.

Navigation: Main Menu > Setup > Audio > Analog



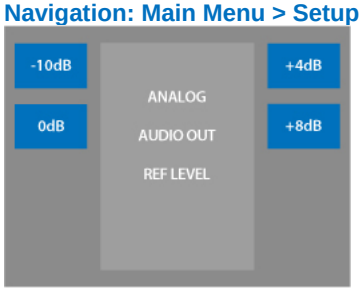
- O/P LEVEL: Takes the user to the Analog Output Level selection menu.
- CHAN: Takes the user to the Analog audio channel allocation menu.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu.

O/P - Analog Audio Output Reference Level Menu

The O/P (output) menu allows the user to configure the output reference level for the analog audio outputs.

Navigation: Main Menu > Setup > Audio > Analog > O/P Level



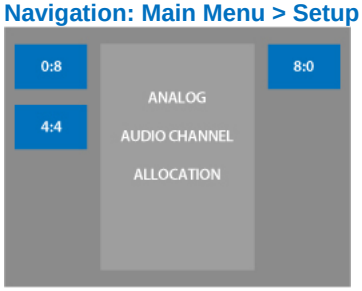
- -10dB: Sets the Analog audio output reference level to -10dB
- 0dB: Sets the Analog audio output reference level to 0dB
- +4dB: Sets the Analog audio output reference level to +4dB
- +8dB: Sets the Analog audio output reference level to +8dB

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

CHAN - Analog Audio Channel Allocation Menu

The Analog Audio CHAN (Setup) menu allows the user to allocate Analog audio channels from the optional VC1-AAIO module to the two video processing channels. This menu is only available in dual-channel units and when the AAIO option board is installed.

Navigation: Main Menu > Setup > Audio > Analog > Chan



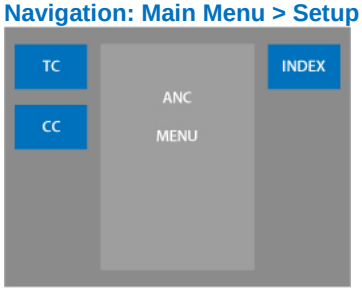
- 0:8: Zero (0) audio channels are assigned to video processing channel 1 and eight (8) audio channels are assigned to video processing channel 2
- 4:4: Four (4) audio channels are assigned to video processing channel 1 and four (4) audio channels are assigned to video processing channel 2. This is the default setting.
- 8:0: Eight (8) audio channels are assigned to video processing channel 1 and zero (0) audio channels are assigned to video processing channel 2.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu.

ANC - Ancillary Data Menu

The Ancillary Data menu provides access to the following features:

Navigation: Main Menu > Setup > Anc



- TC: Takes the user to the Timecode menu
- CC: Takes the user to the Closed Caption menu
- INDEX: Takes the user to the Video Indexing menu

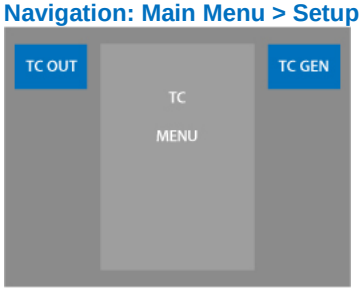
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The VC100 does not pass the entire ancillary data space. It will only process the items on the Ancillary Data Menu as shown above.

TC - Timecode Menu

The Timecode menu allows the user to configure the Timecode functions of the system.

Navigation: Main Menu > Setup > Anc > TC

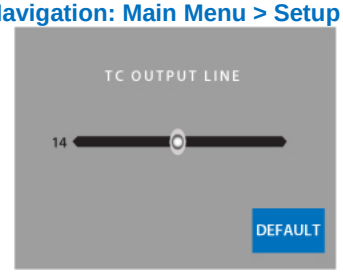


- TC OUT: Selects the line on which timecode will be inserted in an SD output
- TC GEN: Not functional / Future expansion

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

TC OUT - Timecode Output Slider
The TC Out slider selects the line that timecode will be inserted on in a standard definition (SD) output.

Navigation: Main Menu > Setup > Anc > TC > TC Out



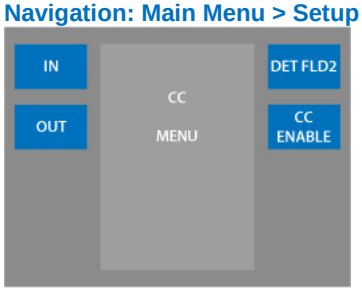
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is Line 9 to Line 19
  - The default setting is 14

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

CC - Closed Caption Menu

The Closed Caption menu allows the user to configure the Closed Caption functions in the system.

Navigation: Main Menu > Setup > Anc > CC

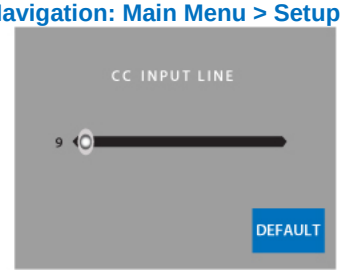


- IN: Takes the user to the CC Input Line slider to select the desired line for closed caption detection
- OUT: Takes the user to the CC Output Line Slider to select the desired line for closed caption processing
- DET FLD 2: Takes the user to the Detect Field 2 ON/OFF menu.
- CC ENABLE: Takes the user to the Closed Caption Enable ON/OFF menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

IN - Closed Caption Input Slider
The IN slider is used to select the line on which closed caption information is located in the incoming signal.

Navigation: Main Menu > Setup > Anc > CC > IN

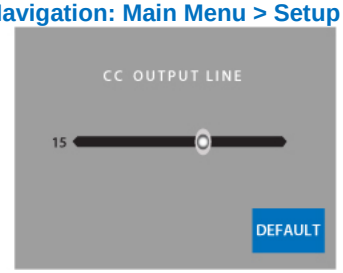


- To adjust, turn the Rotary Encoder on the control panel, or use the upper left and upper right Soft Buttons to decrement/increment by one unit.
- Press the DEFAULT soft button to go back to the default value.
    - The range of adjustment is Line 9 to Line 21 for SD and Line 9 to Line 19 for HD
    - The default setting is Line 21 for SD and Line 9 for HD

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

OUT - Closed Caption Output Slider
The OUT slider is used to select the line that closed caption information will be inserted on in the output signal.

Navigation: Main Menu > Setup > Anc > CC > OUT

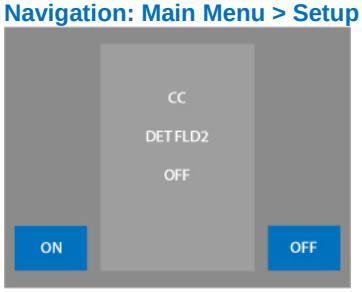


- To adjust, turn the Rotary Encoder on the control panel, or use the upper left and upper right Soft Buttons to decrement/increment by one unit.
- Press the DEFAULT soft button to go back to the default value.
    - The range of adjustment is Line 9 to Line 21 for SD and 9 to Line 19 for HD
    - The default setting is Line 21 for SD and Line 9 for HD

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

DET FLD 2 - Detect Field 2 Menu
The Detect Field 2 menu Enables/Disables the detection of field 2 closed caption information.

Navigation: Main Menu > Setup > Anc > CC > Det Fld 2

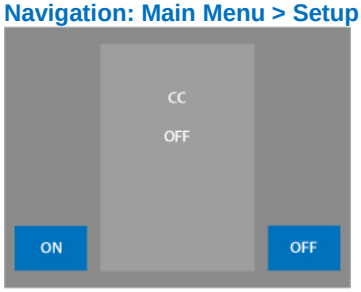


- ON: Enables Field 2 detection of closed caption information
- OFF: Disables Field 2 detection of closed caption information

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

CC - Closed Caption Enable Menu
The CC Enable menu Enables/Disables Closed Caption processing for the currently selected video processing channel.

Navigation: Main Menu > Setup > Anc > CC > CC



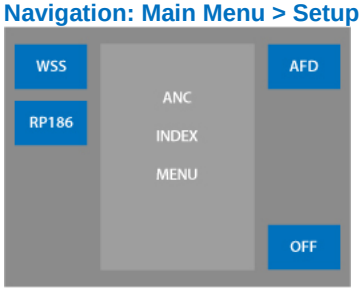
- ON: Enables Closed Caption support
- OFF: Disables Closed Caption support

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

INDEX Menu

The Index menu Enables/Disables one of the available video indexing methods.

Navigation: Main Menu > Setup > Anc > Index



- WSS: Enables WSS (Wide Screen Signaling) support
- RP186: Enables RP186 support
- AFD: Enables AFD support and takes the user to the AFD menu

Note: The 3 video indexing modes, WSS, RP186, and AFD, are mutually exclusive. Only one may be active at a given time.

Note: At present, the VC100 will not pass or insert WSS codes. It will only respond to them if WSS is enabled and a flag is present.

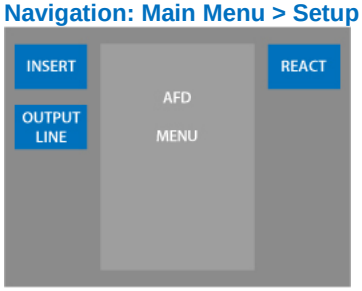
Note: At present the VC100 will not pass or insert RP186 codes. It will only respond to them if RP-186 is enabled and a flag is present.

Note: See Appendix F for additional information of the video indexing modes.

AFD - Active Format Description Menu

The AFD menu allows the user to configure the Active Format Description mode.

Navigation: Main Menu > Setup > Anc > Index > AFD

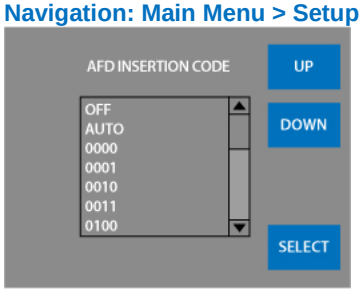


- INSERT: Takes the user to the AFD Insertion menu - Allows the user to insert an AFD code into the ancillary data space of the output video signal.
- OUTPUT LINE: Takes the user to the AFD Output Line slider - Allows the user to select the line on which the AFD will be inserted in the output video signal
- REACT: Takes the user to the AFD Reaction menu - Allows the VC100 to react to AFD codes embedded in the input video stream.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

INSERT - AFD Insert Menu
The AFD Insert menu allows the user to insert an AFD code into the ancillary data space of the output video signal. The code will be inserted into the line selected by the AFD Output Line slider.

Navigation: Main Menu > Setup > Anc > Index > AFD > Insert

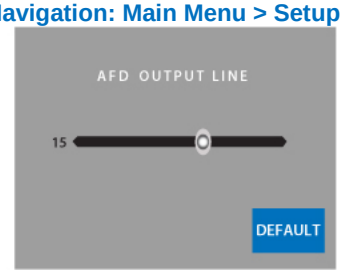


- OFF: No AFD will be inserted
- AUTO: Refer to Appendix F for a table of AFD codes in that will be automatically inserted based on the currently selected output aspect ratio
- 0000 to 1111: Refer to Appendix F for a table of codes inserted in a 4:3 output frame and the for codes inserted in a 16:9 output frame

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

OUTPUT LINE - AFD Output Line Slider
The AFD Output Line slider allows the user to select the line on which the AFD code will be inserted in the ancillary data space of the output video signal.

Navigation: Main Menu > Setup > Anc > Index > AFD > Output Line



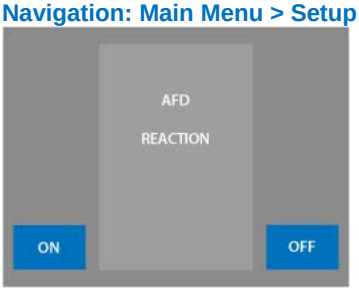
- To adjust, turn the Rotary Encoder on the control panel
- Press the Default soft button to go back to the default value
  - The range of adjustment is 10 to 19
  - The default value is 10

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

REACT - AFD React Menu

The AFD React menu allows the VC100 to react to AFD codes embedded in the input video stream.

Navigation: Main Menu > Setup > Anc > Index > AFD > React



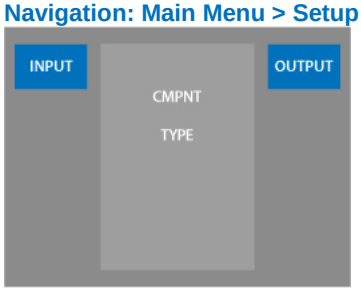
- ON: The VC100 will react to the AFD code by changing the aspect ratio according to the tables in Appendix F for 4:3 and 16:9 coded frames.
- OFF: The VC100 will not react to AFD code

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

CMPNT - Analog Component I/O Menu

The CMPNT menu allows the user to configure analog component input and output for the system.

Navigation: Main Menu > Setup > CMPNT



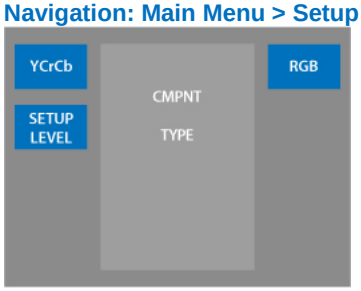
- INPUT: Allows the user to select the Analog Component Input type
- OUTPUT: Allows the user to select the Analog Component Output type

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

INPUT - Analog Component Input Menu

The Input menu allows the user to configure the analog component input for the system.

Navigation: Main Menu > Setup > CMPNT > Input



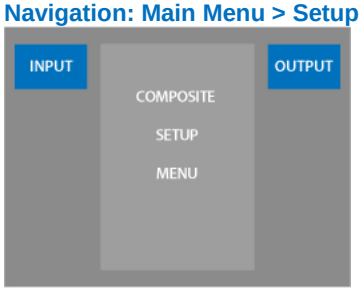
- YCrCb: Sets the Analog Component input to Y,Cr,Cb
- RGB: Sets the Analog Component input to RGB
- SETUP LEVEL: Enables/Disables the Setup Level for the Component input

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

CMPST - Composite Video Setup Menu

The CMPST menu allows the user to configure the analog composite video input and output for the system.

Navigation: Main Menu > Setup > CMPST



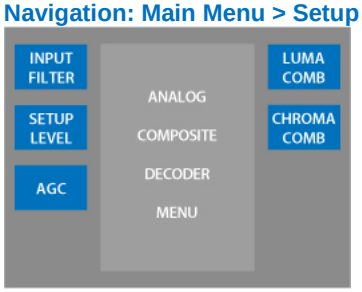
- INPUT: Takes the user to the analog composite input setup menu
- OUTPUT: Takes the user to the analog composite output setup menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

INPUT - Composite Input Menu

The Analog Composite Decoder menu allows the user to configure the analog composite input for the system.

Navigation: Main Menu > Setup > CMPST > Input

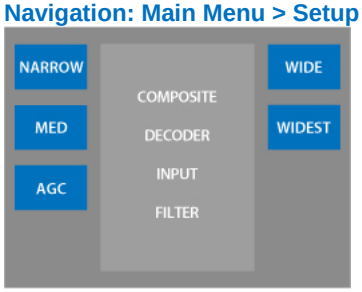


- INPUT FILTER: Takes the user to the input filter selection menu
- SETUP LEVEL: Takes the user to setup level enable menu
- AGC: Takes the user to the automatic gain control (AGC) enable menu
- LUMA COMB: Takes the user to the luminance comb filter setup menu
- CHROMA COMB: Takes the user to the chrominance comb filter setup menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

INPUT FILTER Menu
The Input Filter menu allows the user to configure the filter that is used for the analog composite decoder.

Navigation: Main Menu > Setup > CMPST > Input > Input Filter



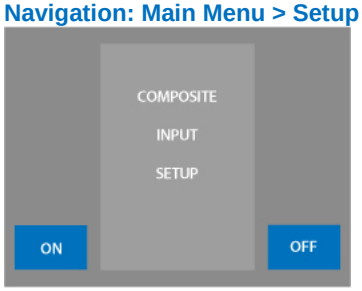
- NARROW: Selects a narrow signal bandwidth to be fed to the comb filter
- MED: Selects a medium signal bandwidth to be fed to the comb filter
- WIDE: Selects a wide signal bandwidth to be fed to the comb filter
- WIDEST: Selects the widest signal bandwidth to be fed to the comb filter

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The Input Filter determines how much of the overall signal bandwidth is fed to the comb filter. A narrow filter selection gives better performance on diagonal lines, but leaves more dot crawl in the final output image. The opposite is true for selecting a wide bandwidth filter.

SETUP LEVEL - Composite Input Setup Level Menu
The Composite Input Setup Level menu Enables/Disables the setup level to be expected for the analog composite input.

Navigation: Main Menu > Setup > CMPST > Input > Setup Level

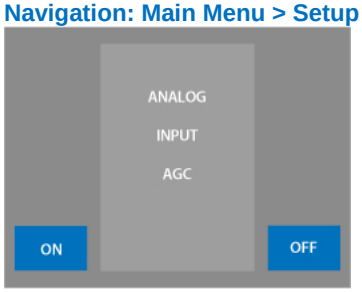


- ON: Configures the system for an NTSC composite input signal with a 7.5 IRE setup level
- OFF: Configures the system for an NTSC composite input signal without a 7.5 IRE setup level

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

AGC - Automatic Gain Control Menu
The AGC menu Enables/Disables the Automatic Gain Control for the analog composite input.

Navigation: Main Menu > Setup > CMPST > Input > AGC



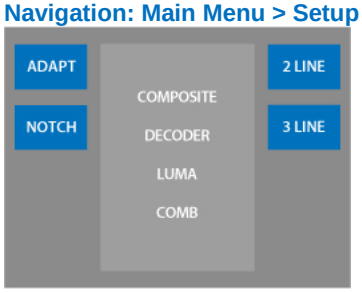
- ON: Enables AGC for the selected analog composite input
- OFF: Disables AGC for the selected analog composite input

Press the **Back** button to move to the previous menu.
Press the **Home** button to go back to the Main menu

Note: When enabled, the AGC ensures that the output video signal is maintained at a constant level regardless of any variations in the input signal. The composite decoder takes measurements of the sync pulse on the input signal and compares it against a target value. This is then used to determine the appropriate gain of all three channels (Y, R-Y, B-Y) at the output of the decoder circuit.

LUMA COMB Menu
Configures the Luminance Comb Filter Decoder selection for analog composite video inputs.

Navigation: Main Menu > Setup > CMPST > Input > Luma Comb

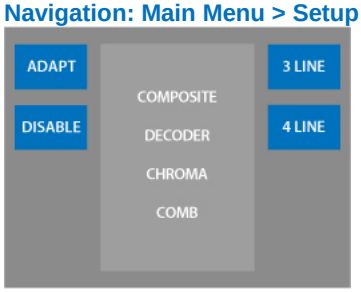


- ADAPT: Uses an Adaptive filter for the luminance comb filter decoding
- NOTCH: Uses a Notch filter for the luminance comb filter decoding
- 2 LINE: Uses a 2 Line filter for the luminance comb filter decoding
- 3 LINE: Uses a 3 Line filter for the luminance comb filter decoding

Press the **Back** button to move to the previous menu.
Press the **Home** button to go back to the Main menu

CHROMA COMB Menu
Configures the Chrominance Comb Filter Decoder selection for analog composite video inputs.

Navigation: Main Menu > Setup > CMPST > Input > Chroma Comb



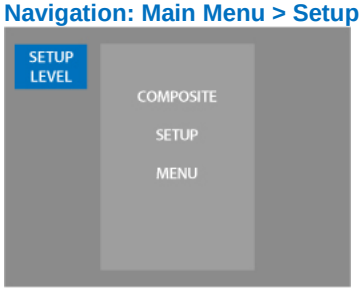
- ADAPT: Uses an Adaptive filter for the chrominance comb filter decoding
- DISABLE: Disables the chrominance comb filter decoding
- 3 LINE: Uses a 3 Line filter for the luminance comb filter decoding
- 4 LINE: Uses a 4 Line filter for the luminance comb filter decoding

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

OUTPUT - Composite Output Setup Menu

The Composite Setup menu allows the user to configure the analog composite output of the system.

Navigation: Main Menu > Setup > CMPST > Output

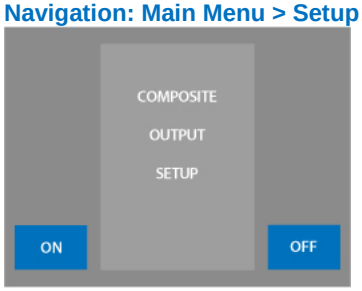


- SETUP LEVEL: Takes the user to the Setup Level menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

SETUP LEVEL - Composite Output Setup Level Menu
The Composite Setup Level menu allows the user to Enable/Disable the setup level on the analog composite output.

Navigation: Main Menu > Setup > CMPST > Output > Setup Level



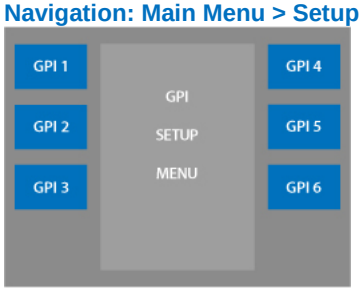
- ON: Configures the system for an NTSC composite output signal with a 7.5 IRE setup level
- OFF: Configures the system for an NTSC composite output signal without a 7.5 IRE setup level
- NOTE: This control will ONLY be available when the Composite Output is selected for the current video processing channel.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

GPI - General Purpose Interface Menu

The GPI menu allows the user to configure the general purpose interface (GPI) for the system.

Navigation: Main Menu > Setup > GPI



- GPI 1: Configures GPI 1 for the selected video processing channel
- GPI 2: Configures GPI 2 for the selected video processing channel
- GPI 3: Configures GPI 3 for the selected video processing channel
- GPI 4: Configures GPI 4 for the selected video processing channel
- GPI 5: Configures GPI 5 for the selected video processing channel
- GPI 6: Configures GPI 6 for the selected video processing channel

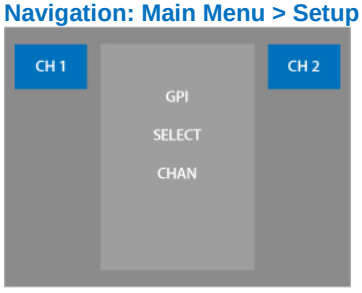
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: See Appendix D for a pin-out of the GPI Connector.

GPI 1 - GPI Channel Selection Menu

The GPI 1 Channel Selection Menu allows the user to select the video processing channel that will be affected by GPI 1.

Navigation: Main Menu > Setup > GPI > GPI 1



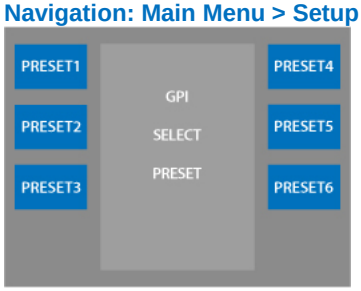
- CH 1: Assigns the GPI to video processing channel 1
- CH 2: Assigns the GPI to video processing channel 2

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: Repeat for GPI 2 through 6, as needed.

CH1 - GPI Select Preset Menu
The GPI Select Preset Menu allows the user to select which Preset will be recalled by the currently selected GPI.

Navigation: Main Menu > Setup > GPI > GPI 1 > CH 1

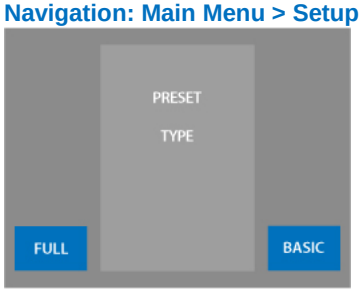


- PRESET 1: Assigns PRESET 1 to the selected GPI
- PRESET 2: Assigns PRESET 2 to the selected GPI
- PRESET 3: Assigns PRESET 3 to the selected GPI
- PRESET 4: Assigns PRESET 4 to the selected GPI
- PRESET 5: Assigns PRESET 5 to the selected GPI
- PRESET 6: Assigns PRESET 6 to the selected GPI

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

PRESET 1 - GPI Preset Type Menu
The Preset Type menu allows the user to select whether the Preset that is recalled by the currently selected GPI is a Basic preset or a Full preset.

Navigation: Main Menu > Setup > GPI > GPI 1 > CH 1 > Preset1



- Full: Recalls the 'Full' version of the preset via GPI
- Basic: Recalls the 'Basic' version of the preset via GPI

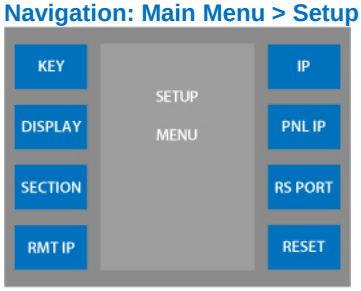
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: See Appendix B for a list of the parameters that are stored in a Full preset recall vs. a Basic preset recall.

MORE - Setup Menu page 2

The Setup Menu (More) provides access to the following additional Setup parameters and features:

Navigation: Main Menu > Setup > More



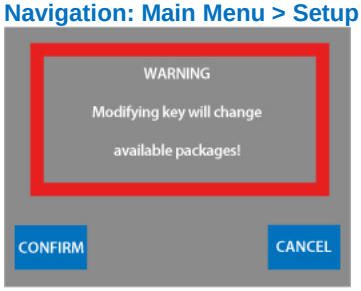
- KEY: Used to enter the System Access Key
- DISPLAY: Not functional / Future expansion
- SECTION: Not functional / Future expansion
- RMT IP: Set the IP of the VC100 chassis with which a Remote Control Panel will communicate (Only available when a control panel is in use as a REMOTE PANEL.)
- IP: Allows the user to set the IP address for the chassis
- PNL IP: Allow the user to set the IP address for the Front Panel
- RS PORT: Allows the user to configure the RS port
- RESET: Not functional / Future expansion

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

KEY - License Key Menu

The Key menu allows the user to enter or modify the license access key for the system. The WARNING below will be displayed requiring you to CONFIRM that you wish to enter the Access Key Menu.

Navigation: Main Menu > Setup > More > Key



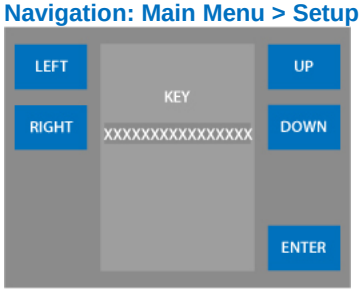
- CONFIRM: User must press to confirm that he wants to enter the Key Menu
- CANCEL: Cancels the operation and returns the user to the Setup Menu

Note: Modifying the system license access key will affect the configuration of the unit. Please use care when entering this menu. If you have any questions, please contact Teranex Customer Support.

CONFIRM - License Key Confirm Menu

The Key Menu allows the user to enter or edit the license access key.

Navigation: Main Menu > Setup > More > Key > Confirm



- LEFT: Moves the cursor left, one position
- RIGHT: Moves the cursor right, one position
- UP: Scrolls up through the list 0-9 and A-Z
- DOWN: Scrolls down through the list 0-9 and A-Z
- RESET: Resets (deletes) the currently entered Key
- ENTER: Press to accept the Access Key

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

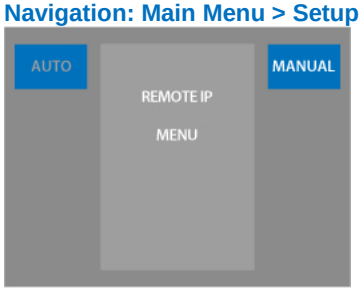
Note: The VC80/100/120 uses an encypted access key to enable features, such as dual channel operation, Dolby decoding, noise reduction and linear standards conversion.

Note: Demo Mode, which can be activated via the HELP MENU, allows a user to "preview" optional features by unlocking them on their system. While in Demo Mode, a "black" frame will be inserted into the output video every 7 seconds. (Note: In previous software releases, a white rectangle will be overlaid on the output video to indicate Demo Mode.).

RMT IP - Remote IP Address Menu

The Remote IP menu allows the user to configure IP address of the Remote Control panel for either automatic (future) or manual mode.

Navigation: Main Menu > Setup > More > RMT IP



- AUTO: Not functional / Future expansion
- MANUAL: Takes the user to the Remote IP address setup menu

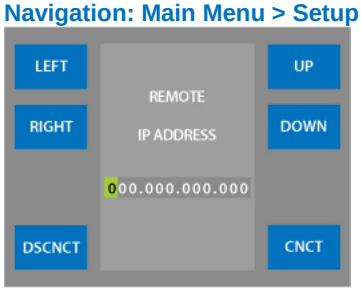
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: This menu is only available on remote control panels.

MANUAL - Remote IP Address Menu

The Manual (Remote IP) menu is used to enter the IP address of the chassis to which you wish to connect via the remote control panel.

Navigation: Main Menu > Setup > More > RMT IP > Manual



- LEFT: Moves the cursor left, one position
- RIGHT: Moves the cursor right, one position
- UP: Scrolls up through the list 0-9
- DOWN: Scrolls down through the list 0-9
- DSCNCT: Disconnects the Remote Control Panel from the VC100 chassis
- CNCT: Connects the Remote Control Panel to the Chassis selected by the Remote IP Address

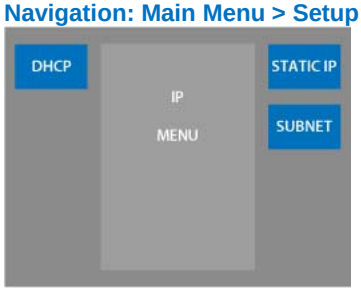
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: This menu is only available on remote control panels.

IP - IP Address Menu

The IP menu allows the user to set the IP address of the chassis via DHCP or with a Static IP address.

Navigation: Main Menu > Setup > More > IP



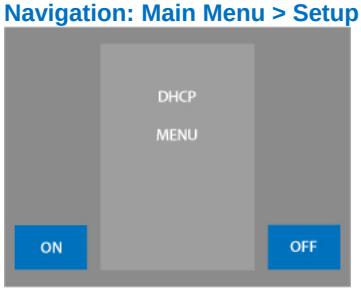
- DHCP: Takes the user to the DHCP (Dynamic Host Configuration Protocol) menu. (If DHCP is ON, the Static IP address menus will be grayed out (not available).
- STATIC IP: Allows the user to manually enter a chassis IP address
- SUBNET: Allows the user to manually enter a Subnet mask

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

DHCP Menu

The DHCP menu Enables/Disables the assignment of an IP address to the chassis using Dynamic Host Configuration Protocol (DHCP).

Navigation: Main Menu > Setup > More > IP > DHCP



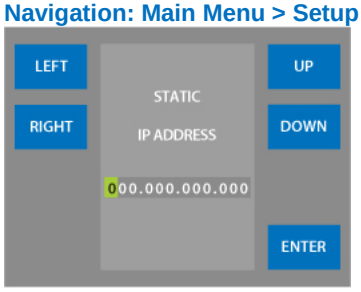
- ON: Enables DHCP IP address assignment.
- OFF: Disables DHCP

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

STATIC IP Menu

The Static IP Menu allows the user to manually set the IP address of the chassis.

Navigation: Main Menu > Setup > More > IP > Static IP



- LEFT: Moves the cursor left, one position
- RIGHT: Moves the cursor right, one position
- UP: Scrolls up through the list 0-9
- DOWN: Scrolls down through the list 0-9
- ENTER: Press to accept the Access Key

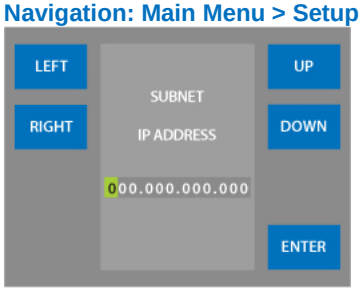
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: To access this feature, DCHP must be turned OFF.

SUBNET - Subnet IP Address Menu

The Subnet IP Address Menu allows the user to manually set the Subnet of the chassis.

Navigation: Main Menu > Setup > More > IP > Subnet



- LEFT: Moves the cursor left, one position
- RIGHT: Moves the cursor right, one position
- UP: Scrolls up through the list 0-9
- DOWN: Scrolls down through the list 0-9
- ENTER: Press to accept the Access Key

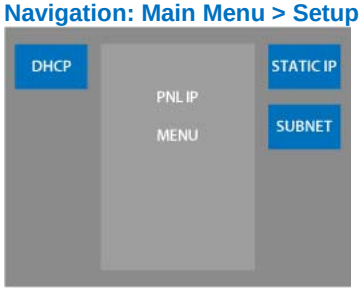
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: To access this feature, DCHP must be turned OFF.

PNL IP - Control Panel IP Address Menu

The PNL IP menu allows the user to set the IP address for the Local Control Panel.

Navigation: Main Menu > Setup > More > PNL IP



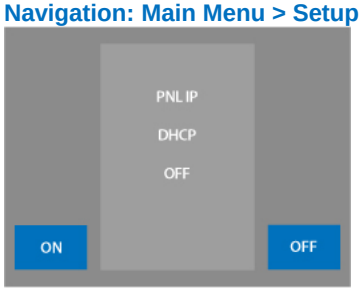
- DHCP: Takes the user to the DHCP (Dynamic Host Configuration Protocol) menu. (If DHCP is ON, the Static IP address menus will be grayed out (not available).
- STATIC IP: Allows the user to manually enter an IP address for the Local Control Panel
- SUBNET: Allows the user to manually enter a Subnet Mask for the Local Control Panel

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

DHCP Menu

The DHCP menu Enables/Disables the assigning an IP address to the Local Control Panel using Dynamic Host Configuration Protocol (DHCP).

Navigation: Main Menu > Setup > More > PNL IP > DHCP



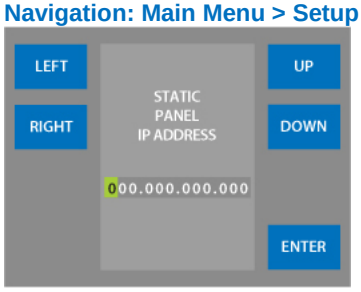
- ON: Enables DHCP IP address assignment.
- OFF: Disables DHCP

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

STATIC IP - Static Panel IP Address Menu

The Static Panel IP Address menu allows user to manually set the IP address of the Local Control Panel.

Navigation: Main Menu > Setup > More > PNL IP > Static IP



- LEFT: Moves the cursor left, one position
- RIGHT: Moves the cursor right, one position
- UP: Scrolls up through the list 0-9
- DOWN: Scrolls down through the list 0-9
- ENTER: Press to accept the IP Address

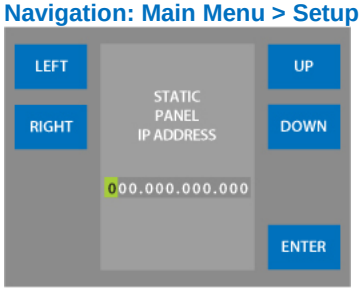
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: To access this feature, DCHP must be turned OFF.

SUBNET - Panel Subnet IP Address Menu

The Panel Subnet IP Address menu allows user to manually set the Subnet of the Local Control Panel.

Navigation: Main Menu > Setup > More > PNL IP > Subnet



- LEFT: Moves the cursor left, one position
- RIGHT: Moves the cursor right, one position
- UP: Scrolls up through the list 0-9
- DOWN: Scrolls down through the list 0-9
- ENTER: Press to accept the Subnet mask

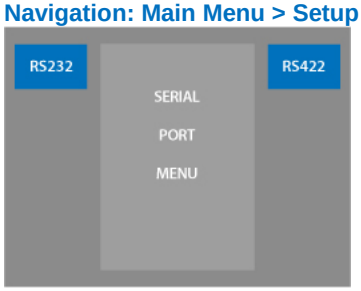
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: To access this feature, DCHP must be turned OFF.

RS PORT - Serial Port Menu

The RS Port menu allows the user to configure the Serial Communication Port of the system.

Navigation: Main Menu > Setup > More > RS Port



- RS232: Configures the serial port for RS232
- RS422: Configures the serial port for RS422

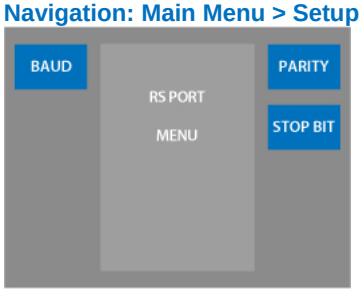
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: See Appendix C for a pin-out of the Serial Port Connector.

RS232 Menu

The RS232 menu allows the user to configure the serial communication port for RS232 and adjust the parameters of the port.

Navigation: Main Menu > Setup > More > RS Port > RS232

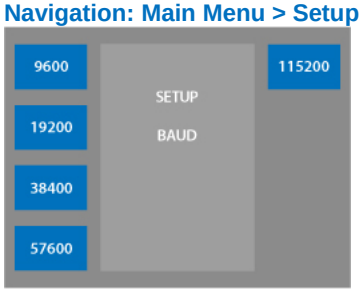


- BAUD: Takes the user to the RS232 baud rate menu
- PARITY: Takes the user to the RS232 parity menu
- STOP BIT: Takes the user to the RS232 stop bit menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

BAUD - RS232 Baud Rate Menu
The Baud menu allows the user to configure the Baud rate of the RS232 port.

Navigation: Main Menu > Setup > More > RS Port > RS232 > Baud

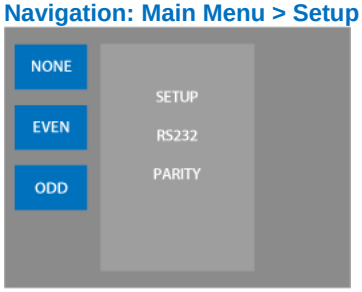


- 9600: Sets the baud rate of the RS232 port to 9600 bits/s
- 19200: Sets the baud rate of the RS232 port to 19200 bits/s
- 38400: Sets the baud rate of the RS232 port to 38400 bits/s
- 57600: Sets the baud rate of the RS232 port to 57600 bits/s
- 115200: Sets the baud rate of the RS232 port to 115200 bits/s

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

PARITY - RS232 Parity Menu
The Parity menu allows the user to configure the Parity used for the RS232 port communications.

Navigation: Main Menu > Setup > More > RS Port > RS232 > Parity

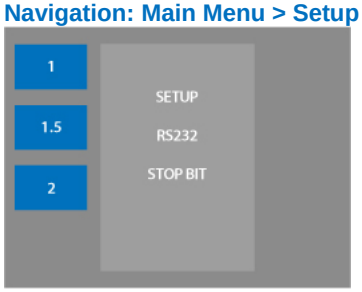


- NONE: Sets the parity for the RS232 port to None
- EVEN: Sets the parity for the RS232 port to Even
- ODD: Sets the parity for the RS232 port to Odd

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

STOP BIT - RS232 Stop Bit Menu
The Stop Bit menu allows the user to configure the number of stop bits used in RS232 communications.

Navigation: Main Menu > Setup > RS Port > RS232 > Stop Bit



- 1: Sets the RS232 port to one (1) stop bit
- 1.5: Sets the RS232 port to one and a half (1.5) stop bits
- 2: Sets the RS232 port to two (2) stop bits

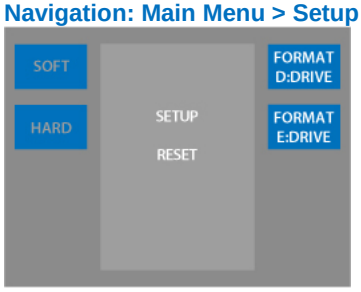
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

RESET - Internal Storage Formating Menu

The Reset menu allows the user to re-format the internal "Drives" of the system. These memory locations are used to store Logo files and User System Presets. The "D: Drive" contains User Logo Bitmap (BMP) files. The "E: Drive" contains User Preset data. There are D: and E: drives associated with each video processing channel. Therefore, to delete all logos or presets from one or both video processing channels, you must perform the reset operation individually on each desired video processing channel.

The drives are independent; therefore, resetting the D: drive does not affect the E: drive (and vice-versa).

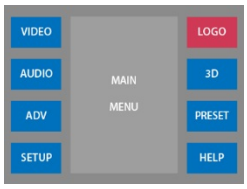
Navigation: Main Menu > Setup > More > Reset



- Soft: Not Functional / Future expansion
- Hard: Not Functional / Future expansion
- FORMAT D: DRIVE: WARNING: Pressing this button will initiate an immediate re-formatting of the internal "D: DRIVE", which will DELETE all user Logo BMP files. DO NOT select this option unless you intend to DELETE ALL LOGO FILES from the currently selected video processing channel of the system. When the FORMAT D: DRIVE button is pressed, the message “FORMAT IN PROGRESS” will appear. Reformatting should take approximately 15 seconds. When the message “FORMAT COMPLETE” appears, press the CLEAR button and then load the new logo files from a USB stick via the Logo Menu (Navigation: MENU > LOGO> USB)
- FORMAT E: DRIVE: WARNING: Pressing this button will initiate an immediate re-formatting of the internal "E: DRIVE", which will DELETE all user Preset data. DO NOT select this option unless you intend to DELETE ALL PRESETS from the currently selected video processing channel of the system. When the FORMAT E: DRIVE button is pressed, the message “FORMAT IN PROGRESS” will appear. When the message “FORMAT COMPLETE” appears, press the CLEAR button.
  - NOTE: You MUST cycle power on the chassis twice after selecting this operation to complete the formatting process of the E: Drive.
  You may load or save new preset data via the PRESET Menu (Navigation: MENU > PRESET).

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Logo Menu

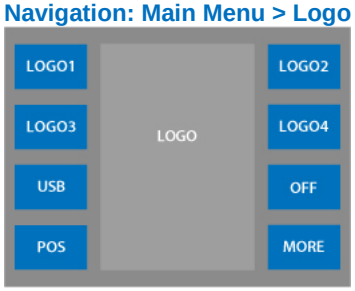


Logo Menu - Page 1

The Logo menus allow the user to manage the internal logo display system. Logo selection, positioning and transparency are some of the features available via the Logo Menu.

Note: See Appendix G for guidelines on creation of logos for the VC100.

Navigation: Main Menu > Logo



or via Direct **LOGO MENU** Pushbutton

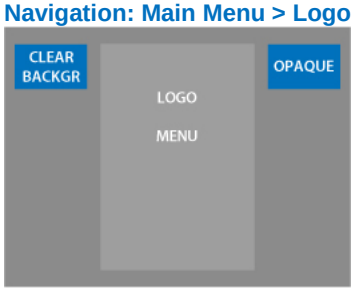
- LOGO1: Press to turn on Logo 1 (soft button will turn yellow)
- LOGO2: Press to turn on Logo 2 (soft button will turn yellow)
- LOGO3: Press to turn on Logo 3 (soft button will turn yellow)
- LOGO4: Press to turn on Logo 4 (soft button will turn yellow)
- USB: Takes the user to the USB Transfer Menu (Selectable only when USB stick has been inserted into local control panel)
- POS: Takes the user to the Logo Position Menu
- OFF: Turns off the current logo
- MORE: Takes the user to Page 2 of the Logo Menus

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Logo Menu - Page 2

Logo Menu

Navigation: Main Menu > Logo > More



- CLEAR BACKGR: Takes the user to Transparent Color RGB Cycle Menu
- OPAQUE: Takes the user to the Logo Opacity Menu

Press the **Back** button to move to the previous menu.
Press the **Home** button to go back to the Main menu

USB Menu

The USB menu button will be active and selectable ONLY when a USB memory stick is inserted into the USB connector on the Local Control Panel. Logos may be loaded only while the VC100 is in standard 2D operational mode. Logos cannot be installed while in any 3D processing mode.

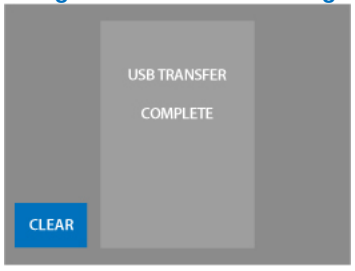
Pressing the USB button on this menu will initiate a download of all Logos from the USB stick to the "D:drive" of the currently selected video processing channel.

Note: It is recommended that you reformat the D:drive for the desired video processing channel prior to loading logos. This process will OVERWRITE any existing logos currently stored in the unit. (**Navigation**: SETUP > MORE > RESET > FORMAT D: DRIVE)

The message "USB Transfer Complete" will be displayed if all logos were saved successfully to the D: drive. Press CLEAR to close this message.

The message "Transfer Failed" will be displayed if no logo files are found on the USB stick. This could be caused by an improper path assigned on the USB stick.

Navigation: Main Menu > Logo > USB

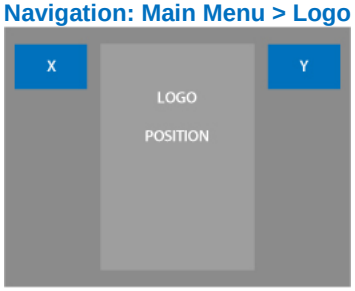


Press the **Back** button to move to the previous menu.
Press the **Home** button to go back to the Main menu

POS - Logo Position Menu

Once a logo is turned on, the POS Menu permits selection of "X" and "Y" positioning of the on-screen logo.

Navigation: Main Menu > Logo > Pos



- X: Takes the user to the 'X' (horizontal) Position Slider
- Y: Takes the user to the 'Y' (vertical) Position Slider

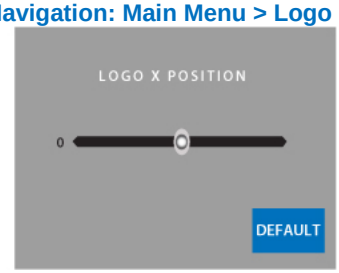
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: If the position is set in one output format and the user switches to another output format, the VC100 will attempt to locate the logo in a similar placement.

X - Logo X Position Slider

Adjusts the 'X' (horizontal) position of the currently enabled logo.

Navigation: Main Menu > Logo > Pos > X



- To adjust, turn the Rotary Encoder on the control panel, or use the upper left and upper right Soft Buttons to decrement/increment by one unit.
- The Default values will place the logo at the RIGHT side of the screen.
    - The range of adjustment is:
        - 0 to 720 - Logo Width (for 480i59.94 & 576i50)
        - 0 to 1280 - Logo Width (for 720p)
        - 0 to 1920 - Logo Width (for 1080)
    - The Default values are:
        - 720 (for 480i59.94 & 576i50)
        - 1280 (for 720p)
        - 1920 (for 1080)

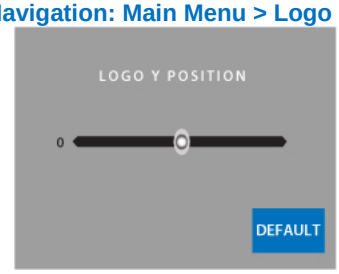
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: The range of adjustment for the X position is the maximum image width minus the logo width. For example, if a logo is 50 pixels wide, the maximum range of adjustment in a 480i59.94 output would be 670 pixels (720-50=670).

Y - Logo Y Position Slider

Adjusts the 'Y' (vertical) position of the currently enabled logo.

Navigation: Main Menu > Logo > Pos > Y



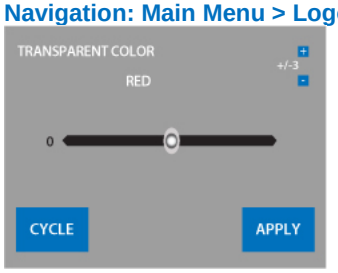
- To adjust, turn the Rotary Encoder on the control panel, or use the upper left and upper right Soft Buttons to decrement/increment by one unit.
- The Default values will place the logo at the BOTTOM of the screen.
  - The range of adjustment is:
    - 0 to 488 (for 480i59.94)
    - 0 to 576 (for 576i50)
    - 0 to 720 (for 720p)
    - 0 to 1920 (for 1080)
  - The Default values are:
    - 488 (for 480i59.94)
    - 576 (for 576i50)
    - 720 (for 720p)
    - 1080 (for 1080)

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

TRANSPARENT COLOR - RED Slider

This slider adjusts the RED value for the CLEAR (Transparent) background of the logo.

Navigation: Main Menu > Logo > More > CLEAR BKGR



- To adjust, turn the Rotary Encoder on the control panel.
  - The range of adjustment is 0 to 255 (for each color)
- Cycle: Takes the user to the Transparent Color Green slider
- Apply: Set the currently selected value. Once pressed, the logo will automatically be refreshed with the selected transparent color value.
- + / - (Soft Buttons): Permits the user to expand the transparent range for this color channel, which may be needed if the background is not a flat color.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

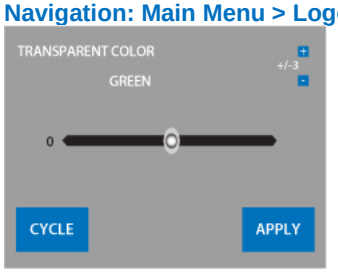
Note: Pressing the Cycle button on the Transparent Color Red Slider page will take you to the Transparent Color Green Slider page. Pressing the Cycle button on this page will take you to the Transparent Color Blue Slider page. Pressing the Cycle button on this page will take you back to the Transparent Color Red Slider page.

Note: The Transparent Color setting is global across all logos.

TRANSPARENT COLOR - GREEN Slider

This slider adjusts the GREEN value for the CLEAR (Transparent) background of the logo.

Navigation: Main Menu > Logo > Transparent



- To adjust, turn the Rotary Encoder on the control panel
  - The range of adjustment is 0 to 255 (for each color)
- Cycle: Takes the user to the Transparent Color Blue slider
- Apply: Sets the currently selected value. Once pressed, the logo will automatically be refreshed with the selected transparent color value.
- + / - (Soft Buttons): Permits the user to expand the transparent range for this color channel, which may be needed if the background is not a flat color.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

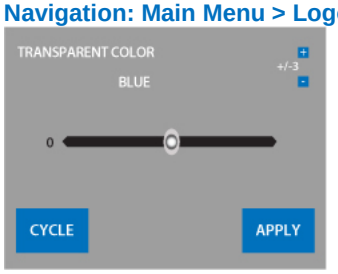
Note: Pressing the Cycle button on the Transparent Color Red Slider page will take you to the Transparent Color Green Slider page. Pressing the Cycle button on this page will take you to the Transparent Color Blue Slider page. Pressing the Cycle button on this page will take you back to the Transparent Color Red Slider page

Note: The Transparent Color setting is global across all logos.

TRANSPARENT COLOR - BLUE Slider

This slider adjusts the BLUE value for the CLEAR (Transparent) background of the logo.

Navigation: Main Menu > Logo > Transparent > Cycle



- To adjust, turn the Rotary Encoder on the control panel
  - The range of adjustment is 0 to 255 (for each color)
- Cycle: Takes the user to the Transparent Color Red slider
- Apply: Set the currently selected value. Once pressed, the logo will automatically be refreshed with the selected transparent color value.
- + / - (Soft Buttons): Permits the user to expand the transparent range for this color channel, which may be needed if the background is not a flat color.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

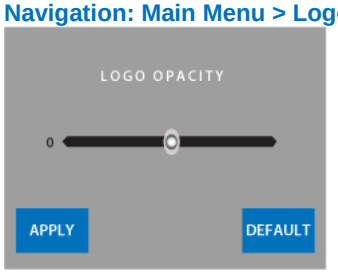
Note: Pressing the Cycle button on the Transparent Color Red Slider page will take you to the Transparent Color Green Slider page. Pressing the Cycle button on this page will take you to the Transparent Color Blue Slider page. Pressing the Cycle button on this page will take you back to the Transparent Color Red Slider page

Note: The Transparent Color setting is global across all logos.

OPAQUE

This menu allows the user to set the opacity of the selected logo. Once applied, the logo will automatically refresh with the new value.

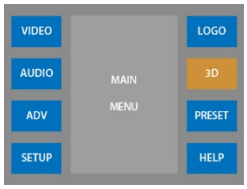
Navigation: Main Menu > Logo > More > Opaque



- To adjust, turn the Rotary Encoder on the control panel, or use the upper left and upper right Soft Buttons to decrement/increment the slider by one unit.
- Apply: Press to apply the new opacity setting. The logo will then be refreshed with the new value, allowing the user to verify or continue to adjust, as needed.
- DEFAULT: Press to return the slider to its Default value.
  The Range of the slider is 0 to 100. The Default value is 50.

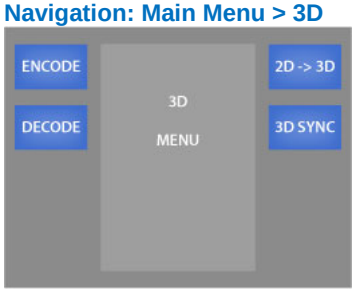
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

3D Menu



The 3D Menu provides access to the OPTIONAL 3D applications that may be available in the VC100. Only one application may be active at a time.

Navigation: Main Menu > 3D



Press the associated soft button for the desired application, if available through your license key.

- Encode: Takes the user to the Encoder Application menu. This Menu will ONLY be available when an HD source is connected to the VC100 Inputs #1 and #2.
- Decode: Takes the user to the Decoder Application menu. This Menu will ONLY be available when an HD source is connected to the VC100 Input #1.
- 2D -> 3D: Takes the user to the 2D-to-3D Application menu.
- 3D SYNC: Takes the user to the 3D Sync Application menu.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

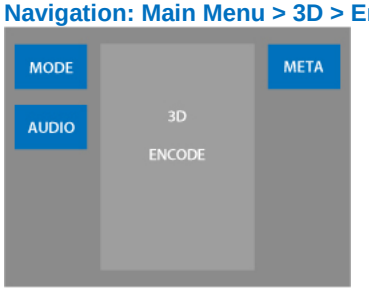
ENCODE - 3D Encoder Application (VC1-3D-ENC) Menu

The VC100 3D Encoder application permits the user to input HD-SDI Left- and Right-eye sources and create a compressed HD-SDI output at 1.485 Gbps, encoded in one of the three formats listed below.

Input/Output Connections
- Connect the HD-SDI “Left Eye” SDI video input to SDI IN 1
- Connect the HD-SDI “Right Eye” SDI video input to SDI IN 2
- The HD-SDI encoded output will be available via OUT 1A and 1B.

The output format and framerate will automatically follow the input format.

Navigation: Main Menu > 3D > Encode



Automatic video input format detection is available in this application and is recommended for ease of use of the Encoder application.

The Encoder output format will automatically follow the input format. This ensures that the input and output formats are at the same resolution and framerate.

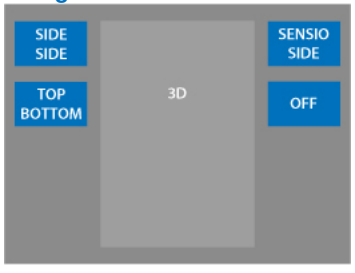
- MODE: Takes the user to the 3D ENCODE MENU to select the preferred encoding method
- AUDIO: Takes you to the 3D Audio menu to permit routing of embedded audio from CH 1 (Left eye) or CH 2 (Right Eye). You may also turn OFF the audio.
    - The Default setting is CH 1
- META: The Metadata option will be available in a future software release.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

MODE - 3D Encode Mode

The 3D Encode Mode menu permits selection of the desired encoding method.

Navigation: Main Menu > 3D > Encode > Mode



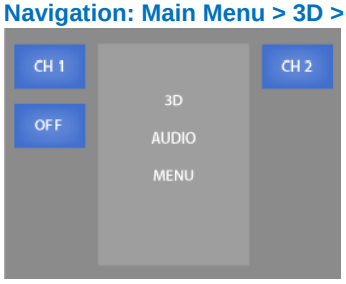
- SIDE SIDE: Press to enable normal Side by Side 3D encoding
- SENSIO SIDE: Press to enable Sensio side by side 3D encoding
- TOP BOTTOM: Press to enable top/bottom 3D encoding
  (currently available for 720p sources ONLY)
- OFF: Press to turn OFF 3D Encoding and return the unit to standard VC100 video processing mode.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

AUDIO - 3D Encode Audio Menu

The 3D Encode Audio menu permits routing of the desired embedded audio input to the encoded SDI output of the VC100. You may also disable audio in this menu by turning the audio OFF.

Navigation: Main Menu > 3D > Encode > Audio



- CH 1: Routes incoming embedded audio from CH 1 (Left Eye) to the encoded output. This is the DEFAULT mode.
- CH 2: Routes incoming embedded audio from CH 2 (Right Eye) to the encoded output
- OFF: Disables embedded audio in the encoded output

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

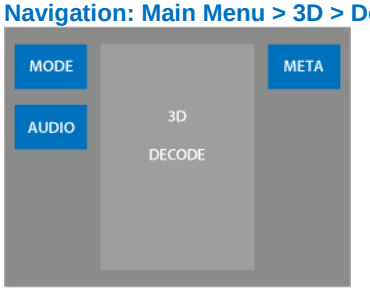
DECODE - 3D Decoder Application (VC1-3D-DEC) Menu

The VC100 3D Decoder application permits the user to input a 3D encoded HD-SDI source (compressed, 1.485 Gbps) and creates independent Left- and Right-eye HD-SDI outputs.

Input/Output Connections
- Connect the encoded 3D HD-SDI source to SDI IN 1
- The decoded HD-SDI Left-eye signal will be available via SDI OUT 1A and 1B
- The decoded HD-SDI Right-eye signal will be available via SDI OUT 2A and 2B

The output format and framerate will automatically follow the input format.

Navigation: Main Menu > 3D > Decode



Automatic video input format detection is available in this application and is recommended for ease of use of the Decoder application.

The Decoder's output format will automatically follow the input format. This ensures that the input and output formats are at the same resolution and framerate.

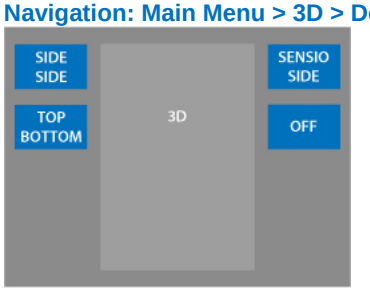
- MODE: Takes the user to the 3D DECODE MENU to select the preferred decoding method
- AUDIO: Takes you to the 3D Decode Audio menu to permit routing of embedded audio from the encoded input to either CH 1 (Left eye) or CH 2 (Right Eye). You may also turn OFF the audio
  - The Default setting is CH 1
- META: The Metadata option will be available in a future software release.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

MODE - 3D Decode Mode

The 3D Decode Mode menu permits selection of the desired decoding method.

Navigation: Main Menu > 3D > Decode > Mode



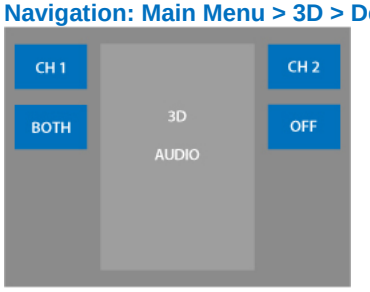
- SIDE SIDE: Press to enable normal Side by Side 3D decoding
- SENSIO SIDE: Press to enable Sensio side by side 3D decoding
- TOP BOTTOM: Press to enable top/bottom 3D decoding
  (currently available for 720p sources ONLY)
- OFF: Press to turn OFF 3D decoding and return the unit to standard VC100 video processing mode

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

AUDIO

The 3D Decode Audio menu allows the user to route the embedded audio input from the encoded input to the decoded CH 1 (Left Eye) output, CH 2 (Right Eye) output, or both CH 1 and CH 2 HD-SDI outputs of the VC100. You may also disable audio in this menu by turning the audio OFF.

Navigation: Main Menu > 3D > Decode > Audio



- CH 1: Routes incoming embedded audio to the CH 1 (Left Eye) output only
- CH 2: Routes incoming embedded audio to the CH 2 (Right Eye) output only
- BOTH: Routes incoming embedded audio to both CH 1 (Right Eye) and CH 2 (Right Eye) outputs
- OFF: Disables embedded audio in the decoded outputs

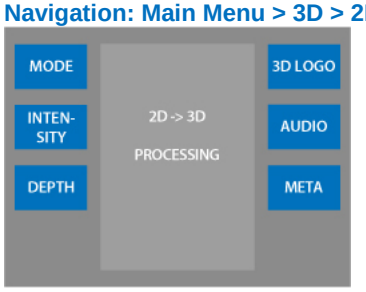
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

2D → 3D - 2D to 3D Menu (Option: VC1-2D-3D)

Teranex's 2D-to-3D Stereoscopic Processing Mode can be applied during any format or framerate conversion available in the VC100. The output format, however, must be an HD format.

Input/Output Connections
- Connect the SDI video input to SDI IN 1
- The simulated Left Eye HD-SDI signal will be available via OUT 1A and 1B; the simulated Right Eye HD-SDI signal will be available via OUT 2A and 2B.

Navigation: Main Menu > 3D > 2D–>3D



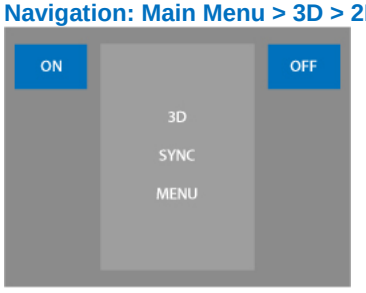
- **MODE:** Takes the user to the menu to turn the 2D-to-3D Mode ON or OFF.
  ***Note**: The controls listed below will be unavailable (grayed out) until this application is turned ON in the MODE menu.*
- **INTENSITY:** Takes the user to the Intensity slider, which provides the overall 3D effect.
- **DEPTH:** Takes the user to the Depth slider, which pushes the overall image deeper. This can add to the 3D effect; however, in most cases, it is left at the default setting of 0; Range is –12 to +12 (most depth)
- **3D LOGO:** Takes you to the 3D Logo menu. A Teranex logo is stored in the unit for demo purposes.
- **AUDIO:** Takes you to the 3D Audio menu to permit routing of embedded audio to CH 1 (Left Eye), CH 2 (Right Eye), BOTH Channels or OFF.
- **META:** The Metadata option will be available in a future software release.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

MODE

This menu permits the user to turn the 2D-to-3D Mode ON or OFF.

Navigation: Main Menu > 3D > 2D–>3D > Mode



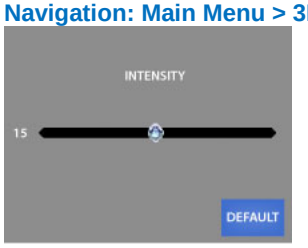
- ON: Turns ON 2D-to-3D processing
- OFF: Turns OFF 2D-to-3D processing

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

INTENSITY Slider

This slider provides user control of the amount of the overall 3D effect.

Navigation: Main Menu > 3D > 2D–>3D > Intensity



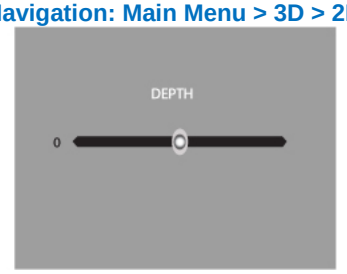
- To adjust, turn the Rotary Encoder on the control panel. You may also press the top left soft button to decrement by one unit or the top right soft button to increment by one unit.
- Press the Default soft button to go back to the default value
  - The Range is –40 (image in front of screen) to +40 (image behind screen). (Zero provides a flat, 2D output image)
  - The default setting is +15

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

DEPTH

The Depth slider pushes the overall image deeper. This can add to the 3D effect; however, in most cases, this slider is left in the default setting.

Navigation: Main Menu > 3D > 2D –>3D > Depth

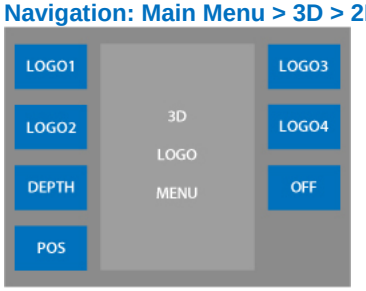


- To adjust, turn the Rotary Encoder on the control panel. You may also press the top left soft button to decrement by one unit or the top right soft button to increment by one unit.
- Press the Default soft button to go back to the default value
  - Range is –12 to +12
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

3D LOGO

Navigation: Main Menu > 3D > 2D–>3D > 3D Logo



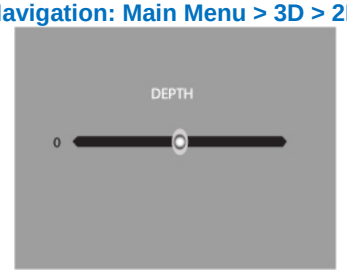
- LOGO1: Turns on Logo 1 in stereoscopic mode on both channels 1 and 2
- LOGO2: Turns on Logo 2 in stereoscopic mode on both channels 1 and 2
- LOGO3: Turns on Logo 3 in stereoscopic mode on both channels 1 and 2
- LOGO4: Turns on Logo 4 in stereoscopic mode on both channels 1 and 2
- DEPTH: Takes the user to the Logo Depth (Z-axis) positioning slider
- POS: Takes the user to the Logo Position Menu
- OFF: Turns off the current logo

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: A Teranex logo is stored in LOGO1 of the VC100 for demo purposes.

DEPTH Slider
This slider allows the user to control of the amount of 3D effect applied to the Logo. The Default setting of 0 (zero) places the logo in the plane of the viewing screen. A negative setting moves the logo in front of the screen, while a positive setting moves the logo behind the screen.

Navigation: Main Menu > 3D > 2D–>3D > 3D Logo > Depth

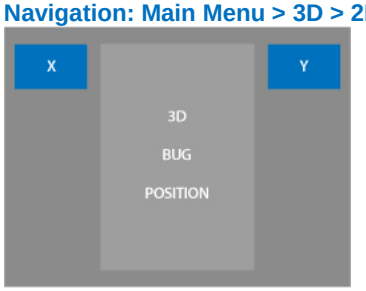


- To adjust, turn the Rotary Encoder on the control panel. You may also press the top left soft button to decrement by one unit or the top right soft button to increment by one unit.
- Press the Default soft button to go back to the default value
  - Range is –30 to +30
  - The default setting is 0

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

POS
Position This menu allows the user to set the horizontal and vertical position of the on-screen logo.

Navigation: Main Menu > 3D > 2D–>3D > 3D LOGO > POS

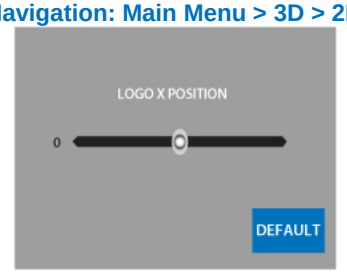


- X: Takes the user to the 'X' (horizontal) Position Slider
- Y: Takes the user to the 'Y' (vertical) Position Slider

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

X – 3D Logo X Position Slider
This slider adjusts the 'X' (horizontal) position of the currently enabled logo.

Navigation: Main Menu > 3D > 2D–>3D > 3D LOGO > POS > X

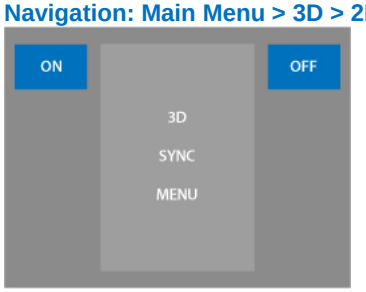


- To adjust, turn the Rotary Encoder on the control panel. You may also press the top left soft button to decrement by one unit or the top right soft button to increment by one unit.
- Press the Default soft button to go back to the default value

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Y – 3D Logo Y Position Slider
This slider adjusts the 'Y' (vertical) position of the currently enabled logo.

Navigation: Main Menu > 3D > 2D–>3D > 3D LOGO > POS > Y



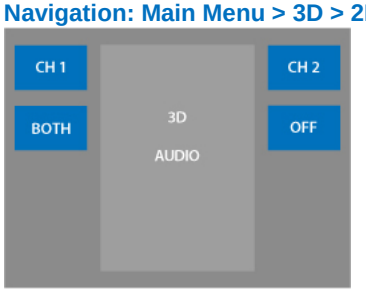
- To adjust, turn the Rotary Encoder on the control panel. You may also press the top left soft button to decrement by one unit or the top right soft button to increment by one unit.
- Press the Default soft button to go back to the default value

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

AUDIO – 3D Audio Menu

The 3D Audio menu permits routing of embedded audio to the SDI outputs of the VC100.

Navigation: Main Menu > 3D > 2D–>3D > AUDIO



- CH 1: Routes incoming embedded audio from IN1 to CH 1 (Left eye) output
- CH 2: Routes incoming embedded audio from IN1 to CH 2 (Right eye) output
- BOTH: Routes incoming embedded audio from IN1 to both CH 1 & CH 2 (Left and Right eye) outputs
- OFF: Disables embedded audio in the CH1 and CH2 outputs

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

3D Sync Application Menu (Option: VC1-3D-SYNC)

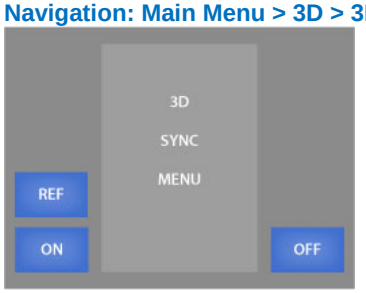
The 3D Sync application is a software option for use on a dual-channel VC100 that permits synchronizing of a free-running stereoscopic pair of video signals to either the left eye (channel 1) input signal or to an external reference of Blackburst or Tri-level sync supplied to the Reference 1 input. With FRC options installed, it also allows for frame rate conversion of the stereoscopic pair, ensuring that the output stereoscopic pair is both frame and phase locked.

Inputs
When the VC100 is in 3D-Sync mode, the Left Eye of the stereoscopic INPUT pair should be connected to the input of Channel 1, with the Right Eye connected to Channel 2. Both input streams must be the same format and frame rate.

Outputs
When the VC100 is in 3D-Sync mode, the Left Eye of the stereoscopic OUTPUT pair will be provided on Channel 1 (outputs 1A and 1B), with the Right Eye on Channel 2 (outputs 2A and 2B). Both output streams will be the same format and frame rate.

Note: It is recommended that 3D Sync be turned on from Video Processing Channel 1. Turning on 3D Sync from Channel 2 may result in unexpected behavior.

Navigation: Main Menu > 3D > 3D Sync



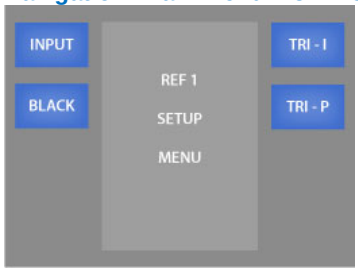
- REF: Takes the user to the REF 1 Setup Menu to select, verify or adjust the desired reference settings.
- ON: Turns ON the 3D SYNC application
- OFF: Turns OFF the 3D SYNC application

REF – External Reference 1 Setup Menu

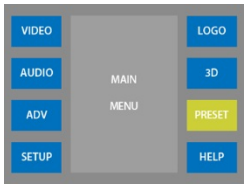
The 3D Sync Reference menu permits synchronizing of the stereoscopic pair of video signals to either the left eye (channel 1) input signal or to an external reference of Blackburst or Tri-level sync supplied to the Reference 1 input. The two output streams will be frame locked within a tolerance of 15 pixels relative to each other. Also, the two output streams will be frame locked within a tolerance of 15 pixels relative to the selected reference.

For more details about this menu, see the REF 1 Menu section in the SETUP menu tree.

Navigation: Main Menu > 3D > 3D Sync > REF



Preset Menu

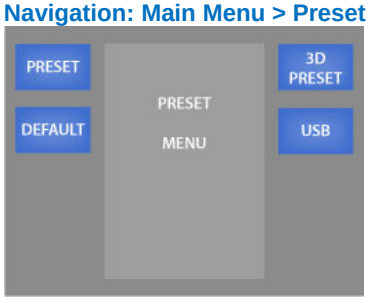


The Preset Menu allows the user to save system configurations to internal memory, to an external USB memory stick and, similarly, to recall system configurations to the system.

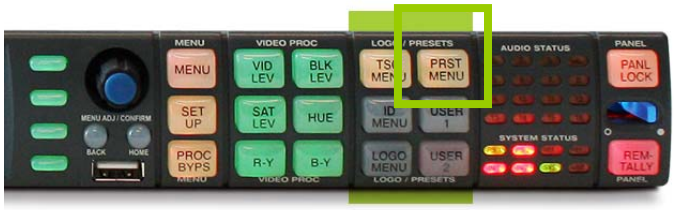
There is one Default (power-on) preset per system.

Each video processing channel has its own set of six standard presets. A separate set of six presets are available for systems that are licensed for 3D applications.

Navigation: Main Menu > Preset



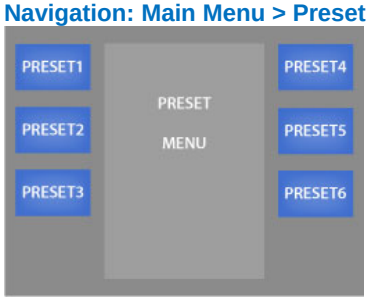
or directly via the **PRST MENU** pushbutton



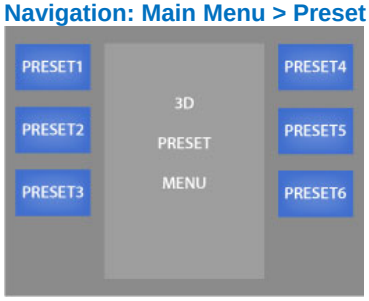
- PRESET: Takes the user to the standard Preset menu for normal 2D operation
- DEFAULT: Takes the user to the Default Load/Save Menu. The Default Preset is used as the “Power-on Preset.” Parameters saved to this Preset will be loaded when the system is powered on.
- 3D PRESET: Takes the user to the 3D Preset menu (grayed out if 3D applications are not licensed in the unit)
- USB: Takes the user to the USB (Load/Save) menu (grayed out if a compatible USB memory stick has not been inserted into the front panel USB connector)

PRESETS – Standard and 3D Preset Menus

Navigation: Main Menu > Preset > Preset



Navigation: Main Menu > Preset > 3D Preset



The Standard Preset menu and the 3D Preset Menu are identical in function; however, the preset data is saved in separate locations. 3D Presets are only available in systems that are licensed for 3D applications.

- PRESET1: Saves or Recalls to/from system memory location 1
- PRESET2: Saves or Recalls to/from system memory location 2
- PRESET3: Saves or Recalls to/from system memory location 3
- PRESET4: Saves or Recalls to/from system memory location 4
- PRESET5: Saves or Recalls to/from system memory location 5
- PRESET6: Saves or Recalls to/from system memory location 6

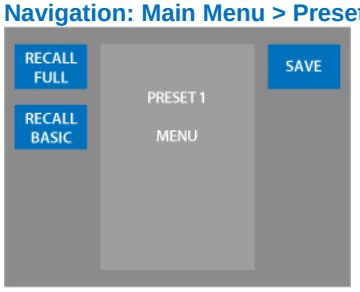
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: At present, the Presets do not capture all system parameters. See Appendix B for a list of the parameters that are being captured.

PRESET1 Menu

The Preset 1 menu saves the current system settings to the Preset 1 memory or Recalls the stored values from the Preset 1 memory. (The remaining 5 presets operate identically to Preset1.)

Navigation: Main Menu > Preset > Preset1



- RECALL FULL: Recalls all system parameters from the preset 1 memory
- RECALL BASIC: Recalls the Basic system parameters from the preset 1 memory
- SAVE: Saves all system parameters to the preset 1 memory

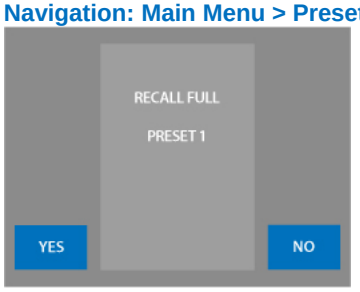
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: At present, the Presets do not capture all system parameters. See Appendix B for a list of the parameters that are being captured.

RECALL FULL Menu

The Recall Full function recalls the Full values from the preset memory.

Navigation: Main Menu > Preset > Preset1 > Recall Full



- YES: Recalls all system parameters from Preset 1 memory
- NO: Cancels the operation

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: See Appendix B for a list of parameters that are recalled in a Full Preset.

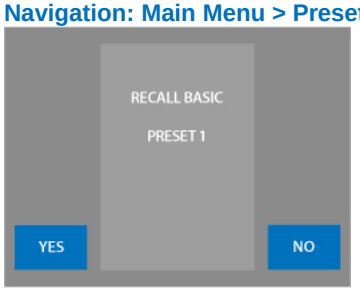
Note: Recalling a full preset may cause the system to reinitialize certain parameters. This will cause a momentary disturbance in audio and/or video output of the system.

Note: RECALL OF SOME 3D PRESETS CAN TAKE UP TO 1 MINUTE TO PROCESS. Additional time is required to reset both channels of the dual-channel VC100 and to properly start the 3D applications with all necessary parameters.

RECALL BASIC Menu

The Recall Basic function recalls the Basic values from the preset memory.

Navigation: Main Menu > Preset > Preset1 > Recall Basic



- YES: Recalls the 'Basic' system parameters from Preset 1 memory
- NO: Cancels the operation

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

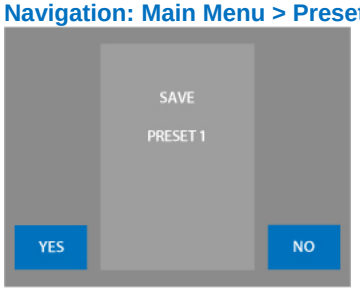
Note: See Appendix B for a list of parameters that are recalled in a Basic Preset.

Note: Recalling a basic preset will not cause any visible or audible disturbances on the output of the system.

SAVE Menu

The Save function saves all parameters to the preset memory.

Navigation: Main Menu > Preset > Preset1 > Save



- YES: Saves all system parameters to Preset 1 memory
- NO: Cancels the operation

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

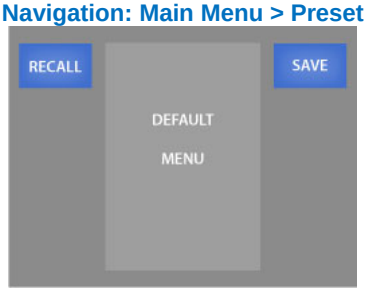
Note: The Preset Save function always saves all parameters to the preset memory.

Note: At present, there are some parameters that are not saved. See Appendix B for a list of parameters that are currently being saved.

DEFAULT – Default (power-on) Recall/Save Menu

The DEFAULT (Recall/Save) menu allows the user to recall the current Default system configuration or save a new Default configuration.

Navigation: Main Menu > Preset > Default



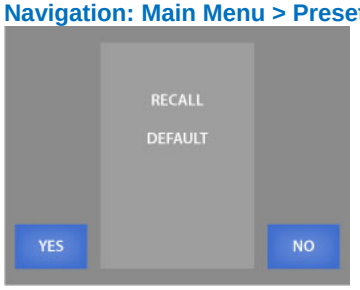
- RECALL: Takes the user to the RECALL DEFAULT (YES/NO) menu
- SAVE: Takes the user to the SAVE DEFAULT (YES/NO) menu

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

DEFAULT RECALL (YES/NO) Menu

The Default Recall function recalls the system configuration from the Default preset memory.

Navigation: Main Menu > Preset > Default > Recall



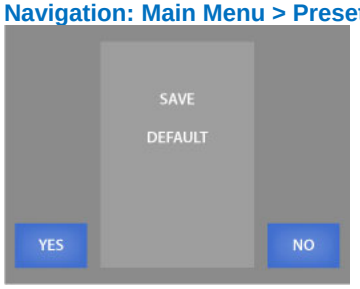
- YES: Recalls the Default system parameters from memory
- NO: Cancels the operation

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

DEFAULT SAVE (YES/NO) Menu

The Default Save function saves all system configuration to the Default preset memory.

Navigation: Main Menu > Preset > Default > Save



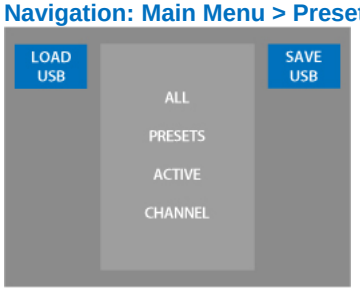
- YES: Saves the system parameters to the Default preset memory
- NO: Cancels the operation

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

USB - USB Load/Save Menu

The USB (Load/Save) menu allows the user to load/save the VC100 presets from/to a USB device.

Navigation: Main Menu > Preset > USB



- LOAD USB: Takes the user to the LOAD USB LOCATION menu
- SAVE USB: Takes the user to the SAVE USB LOCATION menu

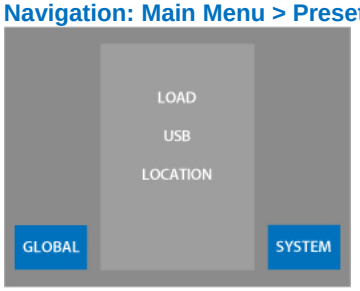
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: This function requires software version 1.20.0.1584 or later.

LOAD USB - USB Load Location Menu

The USB Load Location menu allows the user to load Global or System preset files from a USB device to the VC100.

Navigation: Main Menu > Preset > USB > Load USB



- GLOBAL: Loads the GLOBAL preset files from a USB device to the VC100
- SYSTEM: Loads the SYSTEM preset files from a USB device to the VC100

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

Note: This function requires software version 1.20.0.1584 or later.

Note: GLOBAL Presets are preset files that may be loaded into any VC100.

Note: SYSTEM Presets are preset files that are specific to a particular VC100. When the SYSTEM preset files are loaded from the USB device, the VC100 system will look for the preset files on the USB device that are specific to that system.

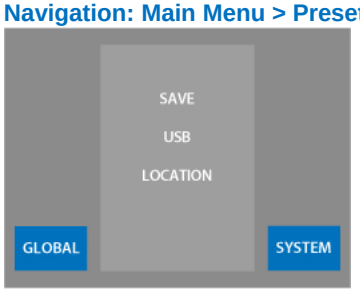
Note: Loading presets from a USB device, whether GLOBAL or SYSTEM, saves the preset files into the memory of the VC100. To enable (recall) a specific preset, you must recall that preset by selecting it via the PRESET menu.

Note: See Appendix E, for details on the file structure used on the USB device for Preset storage.

SAVE USB - USB Save Location Menu

The USB Save Location menu allows the user to save Global or System preset files from the VC100 to a USB device.

Navigation: Main Menu > Preset > USB > Save USB



- GLOBAL: Saves the GLOBAL preset files from the VC100 to a USB device
- SYSTEM: Saves the SYSTEM preset files from the VC100 to a USB device

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

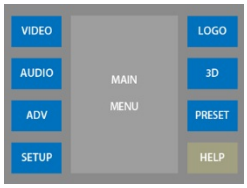
Note: This function requires software version 1.20.0.1584 or later.

Note: GLOBAL Presets are preset files that may be loaded into any VC100.

Note: System Presets - are preset files that are specific to a particular VC100. When the files are stored on the USB device, the files will be placed in a folder with a name which includes the last 6 characters of the system MAC address. This allows the user to store preset files from multiple VC100's on the same USB device.

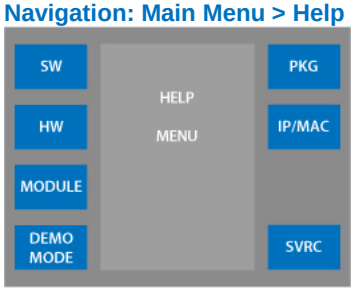
Note: See Appendix E for details on the file structure used on the USB device for Preset storage.

Help Menu



The Help menu provides access to the following features and system information:

Navigation: Main Menu > Help



- SW: Takes the user to the Software (SW) information display screen
- HW: Takes the user to the Hardware (HW) information display screen
- MODULE: Takes the user to the installed hardware option information display screen
- DEMO MODE: Takes the user to the Demo Mode ON/OFF selection menu
- PKG: Takes the user to the Package (PKG) information display screen
- IP/MAC: Takes the user to the IP/MAC address information display screen
- SVRC: Takes the user to the Service menu

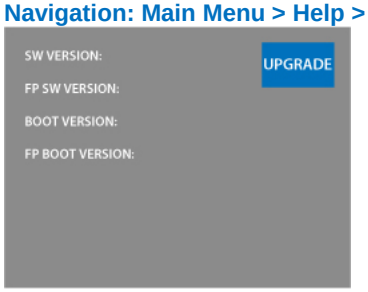
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

SW Menu

The SW menu displays the currently installed software and bootloader versions for the chassis and the local control panel (also called Front Panel (FP)).

The **UPGRADE** button allows the user to upgrade the software in the unit via a USB flash drive (memory stick). However, an upgrade via Ethernet remains the recommended method due to the faster speeds of an Ethernet connection, which results in a much faster upgrade.

Navigation: Main Menu > Help > SW



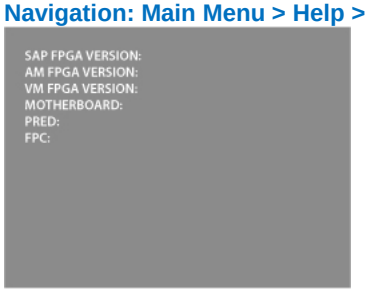
- SW VERSION: Shows the software version of the VC100 chassis
- FP SW VERSION: Shows the software version of the VC100 front panel (local)
- BOOT VERSION: Shows software version of the VC100 chassis Bootloader
- FP BOOT VERSION: Shows software version of the VC100 front panel Bootloader
- UPGRADE (button): For use when upgrading system software via a USB memory stick. This selection will be unavailable ("grayed out") until a USB memory stick is inserted into the Local Control Panel USB connector.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

HW Menu

The Hardware (HW) information screen displays firmware and serial number information for certain hardware modules installed in the unit.

Navigation: Main Menu > Help > HW



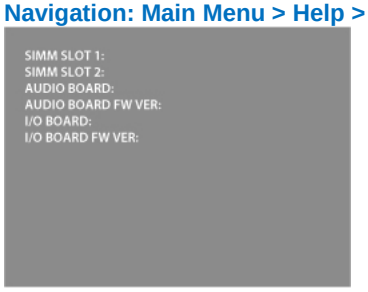
- SAP FPGA VERSION: Displays the firmware version of the SDI Ancillary Processing FPGA
- AM FPGA VERSION: Displays the firmware version of the Audio Mapper FPGA
- VM FPGA VERSION: Displays the firmware version of the Video Mapper FPGA
- MOTHERBOARD: Displays the serial number of the chassis motherboard. (This number may not display properly in older systems.)
- PRED: Displays the serial number of the internal dual channel processing module
- FPC: Displays the serial number of the LCP internal front panel controller module

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

MODULE Menu

The Module menu displays information about installed hardware option modules.

Navigation: Main Menu > Help > Module



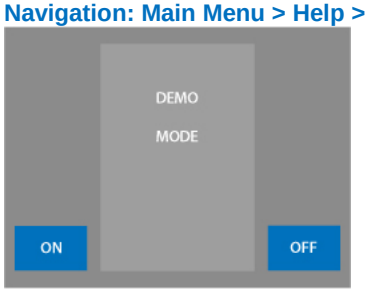
- SIMM SLOT 1: Displays the type of module installed in SIMM slot #1. This may be a Dolby-E decoder or Teranex Audio Expansion Module (AEM). Will state that the slot is "Empty" if no module is installed.
- SIMM SLOT 2: Displays the type of module installed in SIMM slot #2. This may be a Dolby-E decoder or Teranex Audio Expansion Module (AEM). Will state that the slot is "Empty" if no module is installed.
- AUDIO BOARD: Displays "AAIO" if a Teranex Analog/AES option board is installed. Will state that the slot is "Empty" if no module is installed.
- AUDIO BOARD FW VER: Displays the current firmware version of the Analog/AES option board, if installed.
- I/O BOARD: Displays "CCIO" if a Teranex Analog Video I/O option board is installed. Will state that the slot is "Empty" if no module is installed.
- I/O BOARD FW VER: Displays the current firmware version of the Analog Video I/O option board, if installed.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

DEMO MODE Menu

The Demo Mode On/Off menu allows the user to activate a special Demo Mode, which permits the user to "preview" optional features by unlocking them on their system. While in Demo Mode, a "black" frame will be inserted into the output video every 7 seconds. (Note: In previous software releases, a white rectangle was overlaid on the output video to indicate that Demo Mode was ON.)

Navigation: Main Menu > Help > Demo Mode



- ON: Press to turn ON Demo Mode. The user will then be instructed to power-cycle the unit (turn power OFF, then ON again) to invoke Demo Mode. The ON soft button will turn YELLOW when Demo Mode is ON.
- OFF: Press to turn OFF Demo Mode. The user will then be instructed to power-cycle the unit (turn power OFF, then ON again) to disable Demo Mode. The OFF soft button will turn YELLOW when Demo Mode is OFF.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

PKG - Packages Menu

The Packages menu displays the configuration and optional software packages that have been enabled on the unit via the currently installed access key.

Navigation: Main Menu > Help > PKG

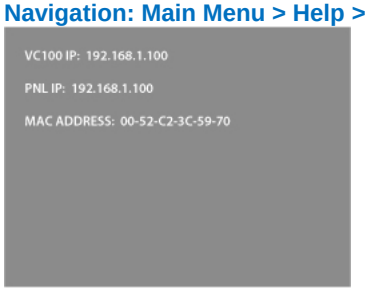
Packages	Description
VC80	Dual channel VC80
VC100	Single channel VC100
VC100-2CH	Dual channel VC100
VC1-DOLBY	Dolby-E Decoder option
VC1-SDNR-CH1	SD Noise Reduction option on VPC1
VC1-SDNR-CH2	SD Noise Reduction option on VPC2
VC1-HDNR-CH1	SD/HD Noise Reduction option on VPC1
VC1-HDNR-CH2	SD/HD Noise Reduction option on VPC2
VC1-SDSTDS-CH1	SD Standards Conversion option on VPC1
VC1-SDSTDS-CH2	SD Standards Conversion option on VPC2
VC1-HDSTDS-CH1	SD/HD Standards Conversion option on VPC1
VC1-HDSTDS-CH2	SD/HD Standards Conversion option on VPC2
VC1-2D-3D	2D to 3D Stereoscopic Processing application for dual channel VC100
VC1-3D-DEC	3D Video Decoding application for dual channel VC100
VC1-3D-ENC	3D Video Encoding application for dual channel VC100
VC1-3DTK	3D Video Tool Kit application for dual channel VC100
VC1-3D-SYNC	3D Synchronization application for dual channel VC100

- Press the **Back** button to move to the previous menu.
- Press the **Home** button to go back to the Main menu

IP/MAC Menu

The IP/MAC menu displays the IP address and MAC address of the VC100.

Navigation: Main Menu > Help > IP/MAC



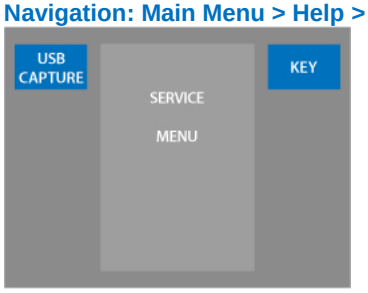
- VC100 IP: Shows the IP address of the VC100 chassis. To change the IP address, go to the IP Address menu (Main Menu > Setup > More > IP).
- PNL IP: Shows the IP address of the VC100 LCP. To change the IP address, go to the IP Address menu (Main Menu > Setup > More > PNL IP).
- MAC ADDRESS: Shows the MAC Address of the VC100 chassis. The MAC address may not be changed.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

SVRC - Service Menu

A Service menu “SVRC” has been added to the Help menu, which allows the following functions:

Navigation: Main Menu > Help > SRVC



- USB Capture: This feature captures all the current settings and parameter values of the VC100 to a USB storage device. Insert a USB stick, press the USB Capture button to save a snapshot setting of the unit. This text file can then be sent to Teranex for analysis.
- KEY: Press this button to go to the KEY menu, which allows the user to save or load the system access key to or from a USB memory stick.

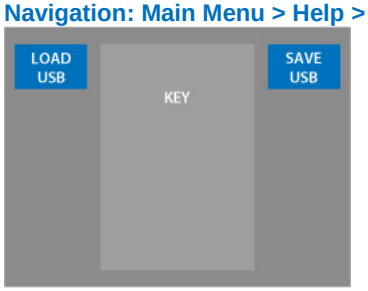
▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

KEY - Save / Load KEY Menu

The KEY menu allows the user to save or load the system access key to or from a USB memory stick. If the access key is accidentally altered or erased, the VC100 unit will go into DEMO MODE. If you have saved the access key to a USB device, you may be able to reinstall it quickly by loading it from the USB device.

Prior to saving the access key, the USB memory stick must have a folder structure as follows:

Navigation: Main Menu > Help > SRVC > KEY



- LOAD USB: Allows the user to LOAD the system access key from a USB storage device.
- SAVE USB: Allows the user to SAVE the system access key to a USB storage device.

▶ Press the **Back** button to move to the previous menu.
▶ Press the **Home** button to go back to the Main menu

VC80 Status Front Panel

The Status Front Panel is standard for the VC80 and is interchangeable with the Local Control Panel. In this configuration, the user can control the VC80 through the multi-lingual web interface or a Remote Control Panel.

1 - Update button - used only when initiating firmware updates

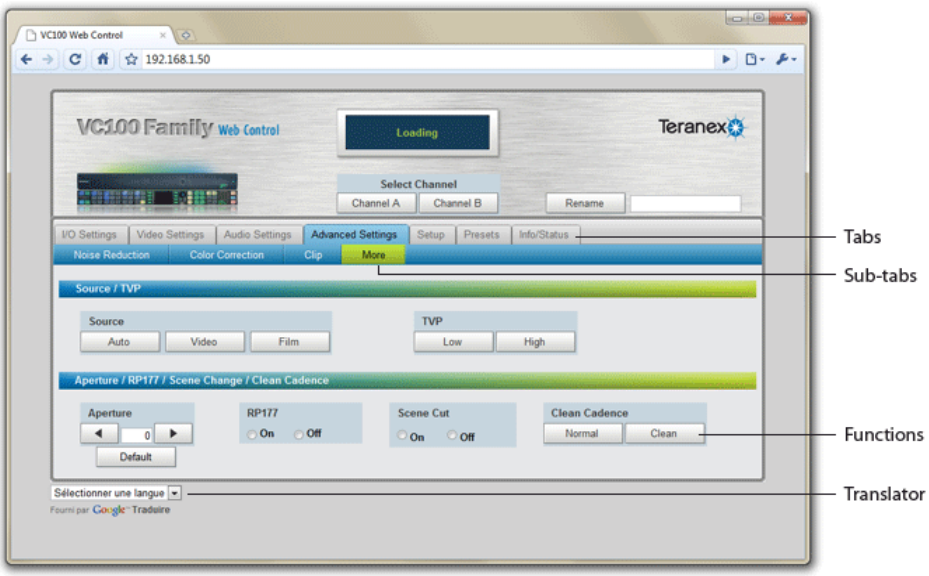
- 2 - Status LEDs
  - P1 - Power Supply 1
  - P2 - Power Supply 2
  - R1 - Reference Input 1
  - R2 - Reference Input 2
  - I1 - Video Input 1
  - I2 - Video Input 2
  - S1 - System Status 1
  - Unused
- 3 - On/Off Switch

Web-based Operation

The VC100 Family features an intuitive web-based user interface through which you can set and control the product's many functions. The interface can be controlled using Firefox, Chrome or Safari.

All of the VC100 Family product's controls are located in the 9 tabs of the interface. Many tabs also include subtabs, which re-group functions of similar nature.

When the user has an active connection to the Internet, an integrated translator can set the interface to display all text in any of the 50+ languages available. Simply select a language from the drop down menu



Web Interface / Set an IP Static Address

The VC100 Family web interface is integrated to the product - you do not need to install a software. However, you need to set an IP address before you can start to control the VC100 Family product. Use the following steps to access the web interface:

- 1- To connect to the VC100 Family product via the web Interface, you must first enable remote connections. Press the Remote Tally button, on the local control panel. The button will change from red to orange, to show that remote connections are now enabled for your VC100 Family product. For system that do not have a local control panel, the remote connection are enabled by default, and require no action from the user.

- 2- You will now need to get the IP address of the system you wish to control. Using the Local Control Panel LCD menu, go the IP/MAC page, in the Help Menu. The IP address of your system is displayed in this menu page.

- 3- Open your web browser and type in this IP address in the URL bar. Press the Enter key.

- 4- You now have the web Interface in your browser. To complete the connection process, click on the yellow button at the top of the VC100 Family Web Interface, where it says "Disconnected (Press to connect)". Wait a few seconds. When the connection is established, this button turns to green.

You should now have control of the VC100 Family product over the web interface.

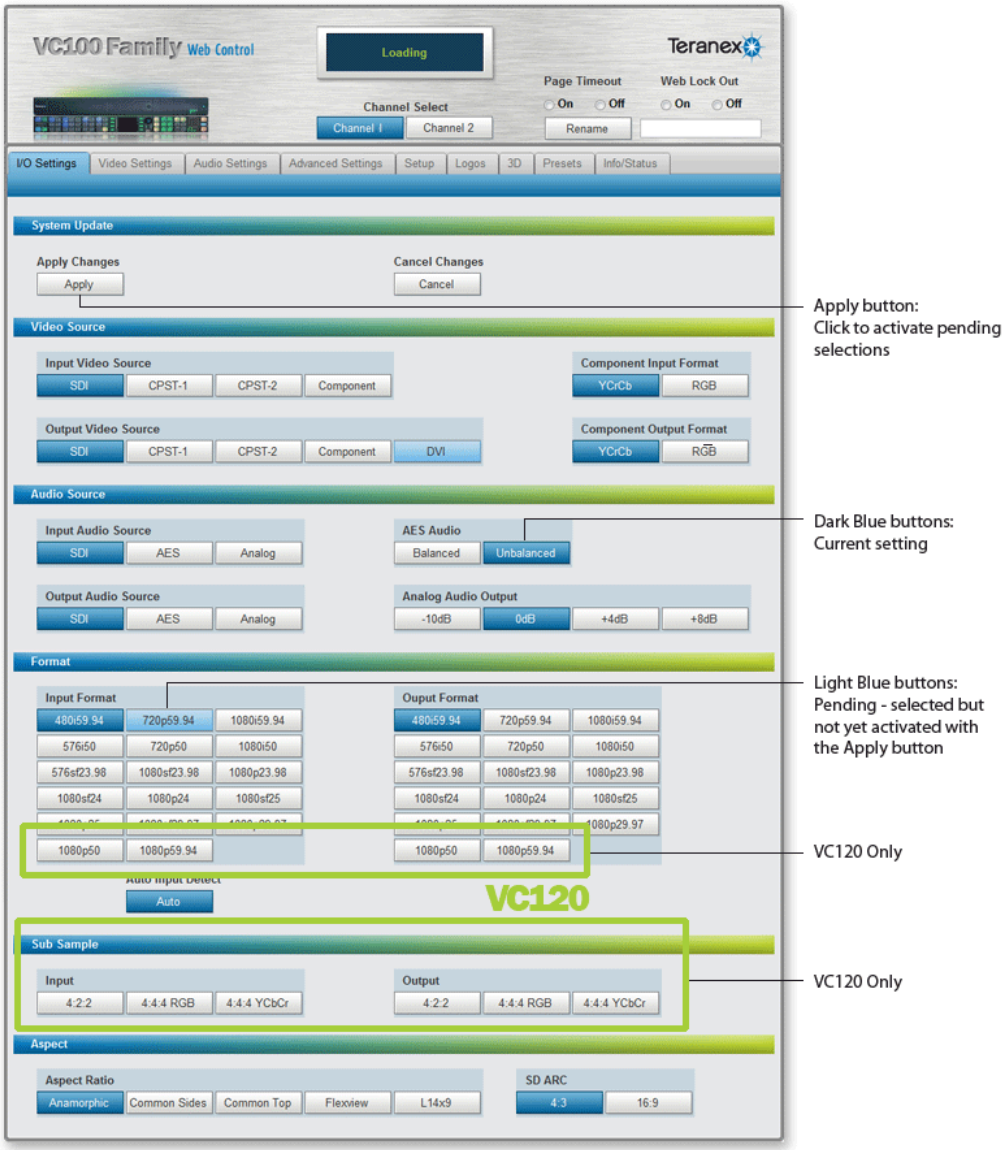
VC80, VC100 & VC120 specific functions

The VC80 and VC100 products share the same web interface. The VC120 web interface, however, is slightly different with functions added and, with VC80 and VC100 specific functions removed. In the following section of the manual, as we go through the many menu pages of the web interface, functions specific to the VC120 will be outlined.

Current Settings / Pending Selections

Dark blue buttons, in many pages of the web interface, inform the user of the product's current settings. In the example below, the VC100 Family product is set to a 480i59.94 Input Format and a 480i59.94 Output Format. When a different selection is made by the user, (for example, by selecting 720p59.94 as the Input Format), the selected button turns to **light blue**, to indicate that this new selection is pending. The user has to click on the Apply button at the top of the menu page for this selection to become active. You can change more than one selection before clicking on the Apply button. Click on the Cancel button, if you do not wish to apply your new selections to the system.

Once the Apply button has been clicked, the new selections turns to dark blue, to indicate the new current setting of the system. The latest settings are recalled by the system after a power-up.



Web Interface Header

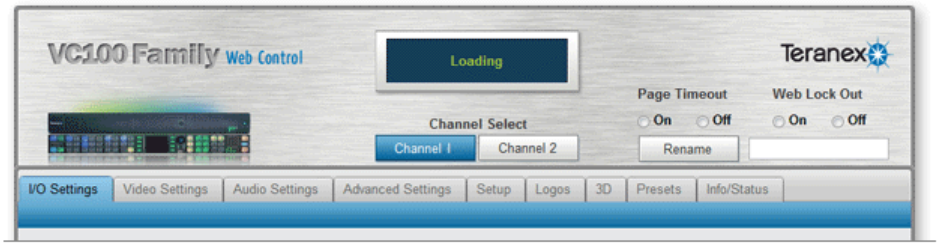
Some functions of the VC100 Family product can be controlled in the web interface header. The header's most noticeable button, as described in the "Set an IP address" section, is used to connect the web interface to a specific VC100 Family product, identified with its IP address. When the button's window is green, the web interface is connected to a VC100 Family product. Click on the button to disconnect. When the button's window is yellow, the button is not connected to a VC100 Family product. Click on the button to connect.

Channel Select
The parameters set in the web interface are applied to 1 processing channel. Depending on the configuration, your VC100 Family product can have 1 or 2 processing channels. In the header, click on channel 1 or channel 2 to select the video processing channel for which you wish to set the parameters.

Page Time Out
For safety reasons, after a period of time (10 minutes), a web interface that has not been used is disconnected from the VC100 Family product it was connected to. The Page Time Out function allows the user to enable or disable this function.

Web Lock Out
The web interface can be locked out by a user to prevent other computers from changing the settings of a VC100 Family product during a session. The Web Lock Out function allows the user to enable or disable this parameter.

Rename
When the user first connects to the web server a pop up window appears and asks to name the session. The user may select the default name or type in its own. If the user hits Cancel a default name of “GenericWebInterface” is used. The rename button is used to give the session a new name. Giving the session a name does not associate a name with the VC100 itself.



I/O Settings menu

Video Source
The Video Source section allows the user to select the input and output video sources (video connections) for the selected processing channel (1 or 2). Composite (CPST-1 and CPST-2) and Component I/O selections are available when the VC1-CCIO OPTION board is installed. When the source is Component, the user can select the Component Format (YCrCb or RGB), for the input and output.

Audio Source
The Audio Source section allows the user to select the input and output audio sources (video/audio connections) for the selected processing channel (1 or 2). Analog and AES I/O selections are available when the VC1-AAIO OPTION board is installed.

The AES Audio functions allows the user to configure the AES audio option to balanced or unbalanced formats.

The Analog Audio Output functions allow the user to configure the output reference level for the analog audio outputs.

Format
The Format section allows the user to select the input and output video format for the selected processing channel (1 or 2). The input video format can be selected by the user, or automatically detected by the VC100 Family product, by selecting the Auto Input Detect function. The 1080p50 and 1080p59.94 video formats selections are only available on the VC120 and on a VC80 or VC100 with a 3G I/O module installed. See the Format Conversion Tables here.

Sub Sample
The Sub Sample section of the I/O Settings menu page is only available for the VC120.

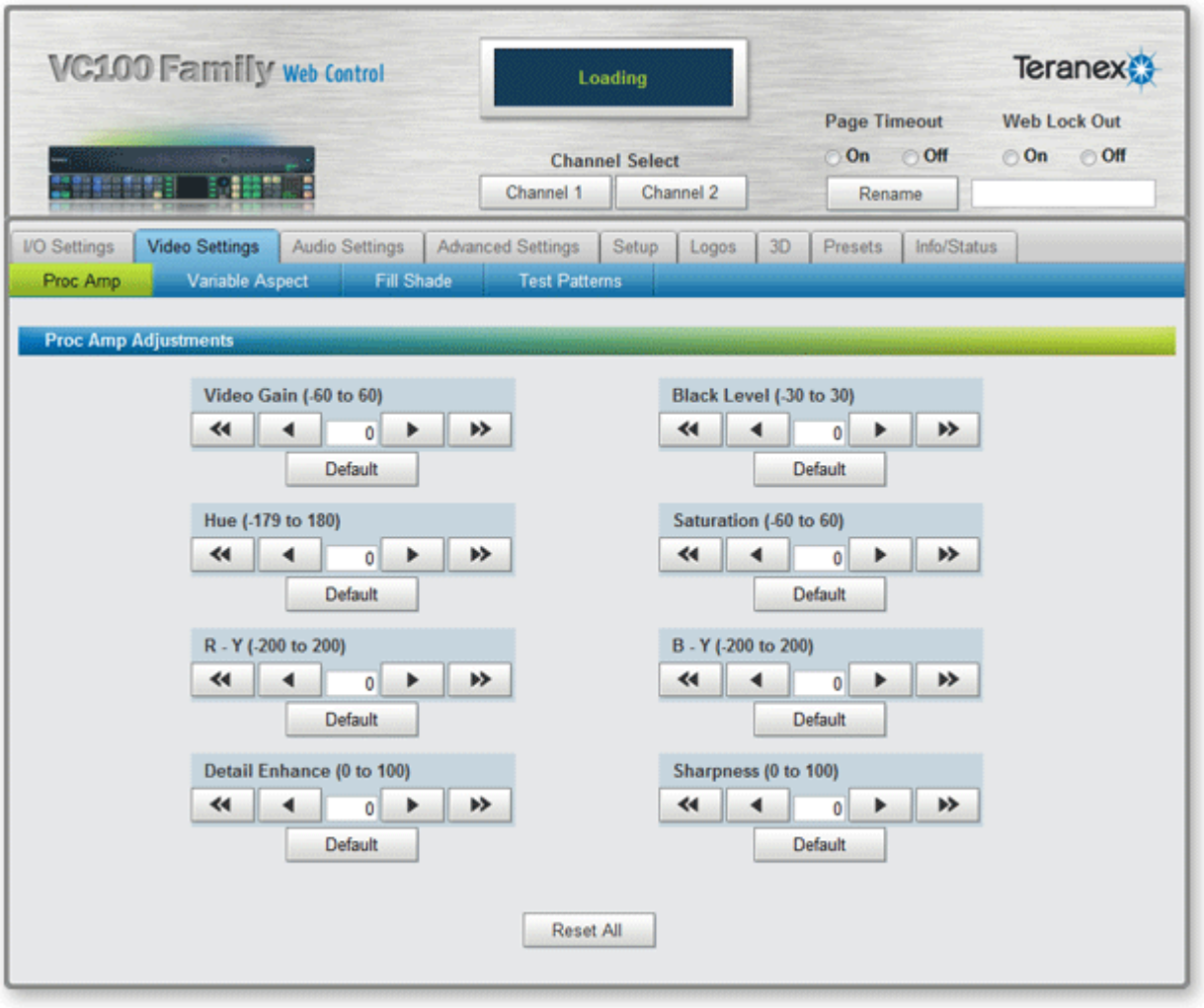
Aspect
The Aspect section allows the user to set the aspect ratio of the selected processing channel. Read more on these parameters here. SD ARC will allow the user to define the input format as 4:3 or 16:9.


VC100 Family Web Control
Loading
Teranex
Page Timeout
On Off
Web Lock Out
On Off
Channel Select
Channel 1
Channel 2
Rename
I/O Settings
Video Settings
Audio Settings
Advanced Settings
Setup
Logos
3D
Presets
Info/Status
System Update
Apply Changes
Apply
Cancel Changes
Cancel
Video Source
Input Video Source
SDI
CPST-1
CPST-2
Component
Component Input Format
YCrCb
RGB
Output Video Source
SDI
CPST-1
CPST-2
Component
DVI
Component Output Format
YCrCb
RGB
Audio Source
Input Audio Source
SDI
AES
Analog
AES Audio
Balanced
Unbalanced
Output Audio Source
SDI
AES
Analog
Analog Audio Output
-10dB
0dB
+4dB
+8dB
Format
Input Format
480i59.94
720p59.94
1080i59.94
576i50
720p50
1080i50
576sf23.98
1080sf23.98
1080p23.98
1080sf24
1080p24
1080sf25
1080p25
1080sf29.97
1080p29.97
1080p50
1080p59.94
Ouput Format
480i59.94
720p59.94
1080i59.94
576i50
720p50
1080i50
576sf23.98
1080sf23.98
1080p23.98
1080sf24
1080p24
1080sf25
1080p25
1080sf29.97
1080p29.97
1080p50
1080p59.94
Auto Input Detect
Auto
Sub Sample
Input
4:2:2
4:4:4 RGB
4:4:4 YCbCr
Output
4:2:2
4:4:4 RGB
4:4:4 YCbCr
Aspect
Aspect Ratio
Anamorphic
Common Sides
Common Top
Flexview
L14x9
SD ARC
4:3
16:9

Video Settings menu

Proc Amp tab

The Proc Amp subtab allows the user to set the video gain, black level, hue, saturation, R-Y level, B-Y level, detail and sharpness of the output image. Read more on these controls in the LCD menu section.



Variable Aspect tab

The Variable Aspect subtab allows the user to vary the size and position of the output image from the standard aspect ratio settings available in the VC100 Family product.

The **Horizontal** and **Vertical Size** controls have a range of adjustment of -33% to +200% of input image size. Horizontal Size adjustments are made in 1-pixel increments. Vertical Size adjustments are made in 1-line increments.

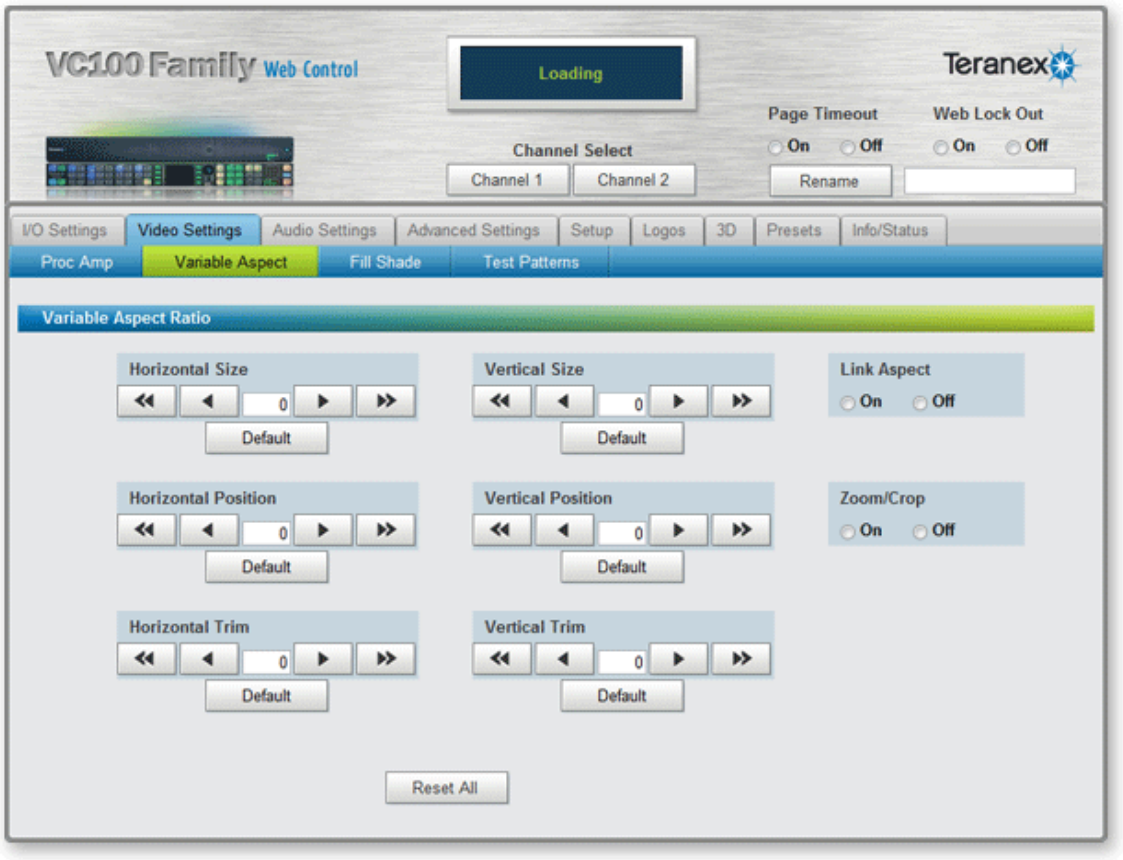
The **Horizontal** and **Vertical Position** controls have a range of adjustment that is dependent on the current image size. Horizontal position adjustments are made in 1-pixel increments. Vertical Position adjustments are made in 1-line increments.

Horizontal and Vertical Position controls are not available in HD to HD or HD to SD frame-rate conversions.

Horizontal and **Vertical Trim** adjustments may be made to crop the image as needed. It is only available while using the VAR adjustments.

The **Link Aspect** On/Off selection allows the user to simultaneously adjust the Horizontal and Vertical Size by linking those controls.

The **Zoom/Crop** On/Off setting does **NOT** affect the VAR settings. This feature will zoom the image by 3-lines/pixels and then crop the image by 3-lines/pixels. The purpose of this function is to mask video disturbances that may arise on the top or bottom edge of an image or on the left or right side of an image.



Fill Shade tab

The Fill Shade subtab allows the user to fill the blanking portion of the image in an upconversion with a live video feed.

Fill Shade

The Fill Shade section allows the user to fill the blanking portion of the image with color. Use the Luma Fill, R-Y fill and B-Y fill controls to adust the color.

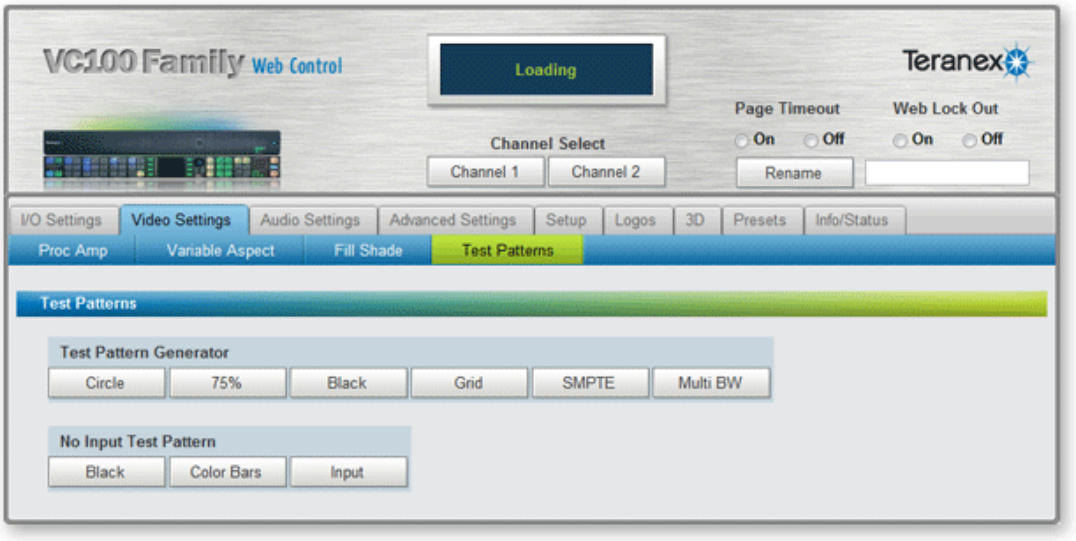
Active Fill

The Active Fill section allows the user to trim the active fill region. Read more on these controls in the LCD menu section.

Test Patterns tab

The Test Patterns subtab allows the user to select and use a test pattern at the output.

The **No Input** section of the Test Patterns page determines which test signal will be output when the video input is lost. Read more on these controls in the LCD menu section.



Audio Settings menu

Audio Level

The Audio Settings menu allows the user to control the audio parameters of the VC100 Family product.

Audio Channel Selection

The Audio Channel Selection section of the menu allows the user to select the audio channels on which will be performed the Audio Level/Phase/ Delay and Test Tones. You can select either individual channels, audio pairs or groups. Read more on these controls in the LCD menu section.

Audio Level/Audio Phase

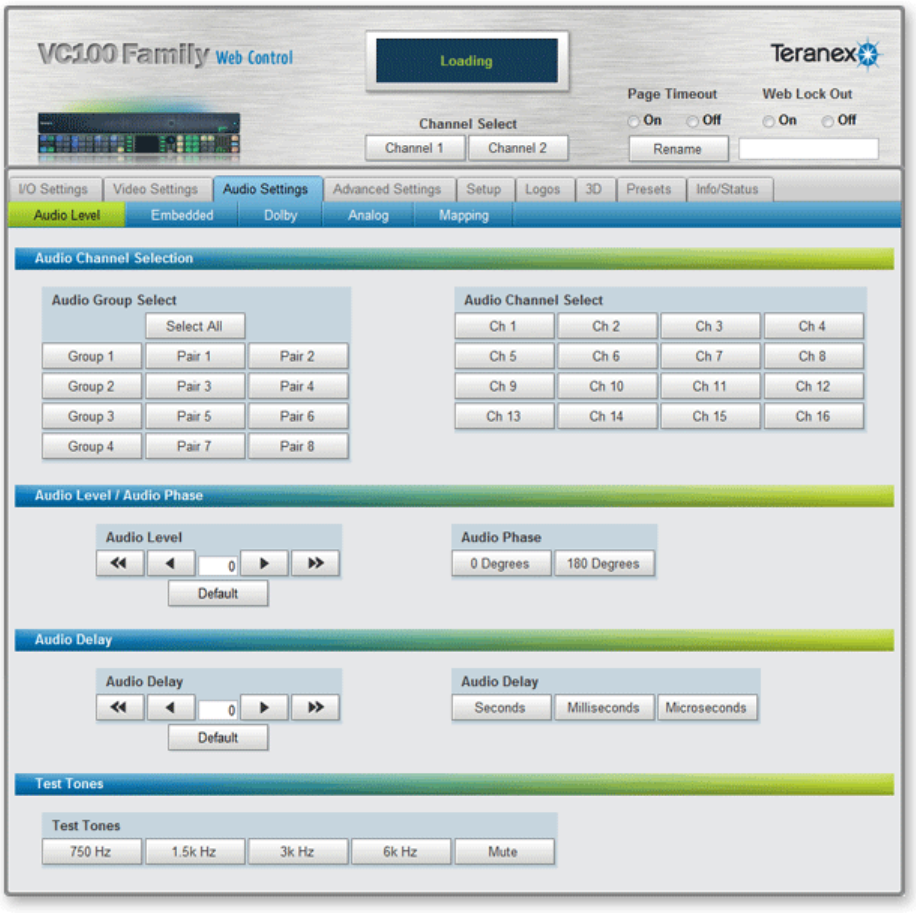
The Audio Level/Audio Phase section allows the user to set these parameters for the selected audio channels, pairs or groups. Read more on these controls in the LCD menu section.

Audio Delay

The Audio Delay section allows the user to adjust a delay for the currently selected video processing channel. Read more on these controls in the LCD menu section.

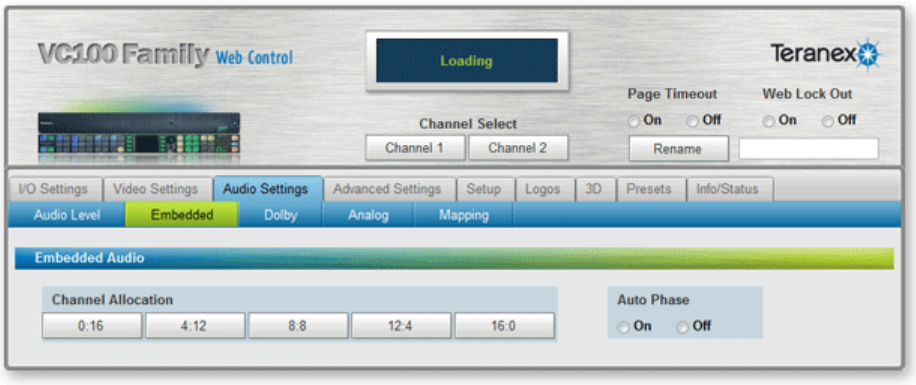
Test Tone

The Test Tone section of the menu allows the user to to select and use an audio test tone at the output. Read more on these controls in the LCD menu section.



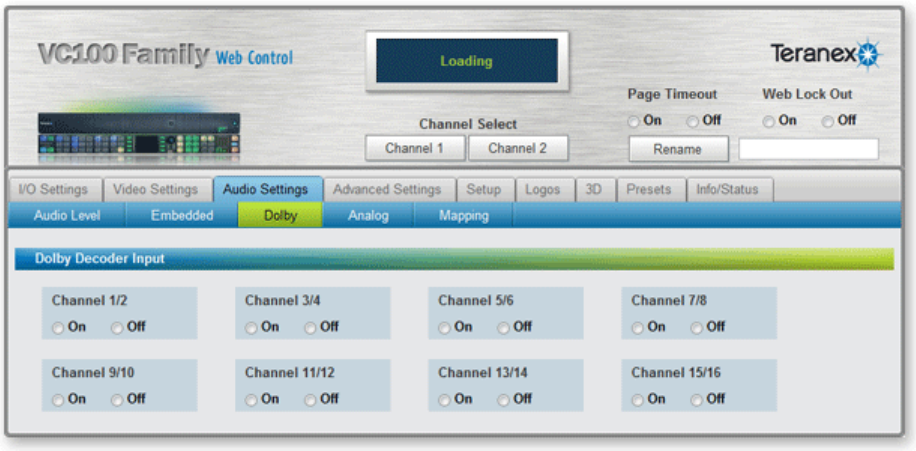
Embedded

The Embedded subtab allows the user to determine how many audio channels, extracted from the embedded audio, will be available to video processing channel 1 and video processing channel 2. The Audio Auto Phase function allows the user to enable audio error checking, to detect audio phase errors in the signal. Read more on these controls in the LCD menu section.



Dolby

The Dolby menu allows the user to enable/disable the Dolby-E decoder module for the selected audio channel(s). Read more on these controls in the LCD menu section.



Analog

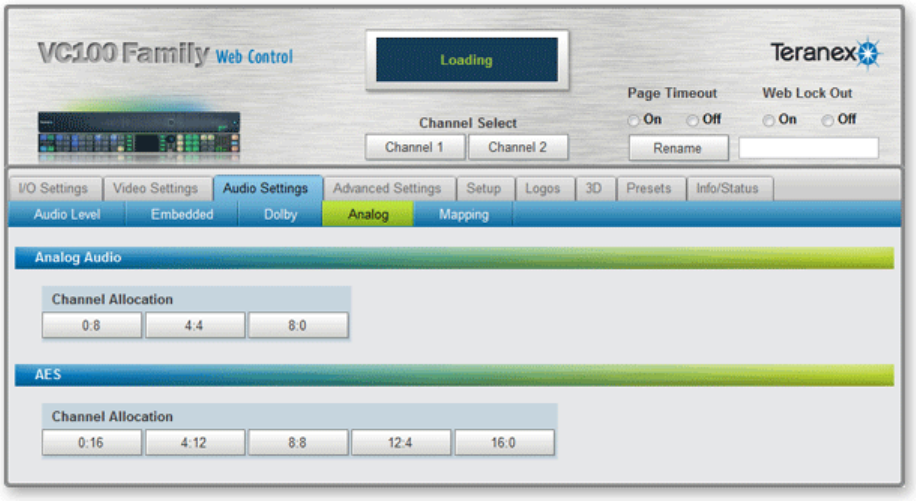
Analog Audio

The Analog Audio section allows the user to determine how many audio channels from the analog audio input will be available to video processing channel 1 and video processing channel 2.

AES

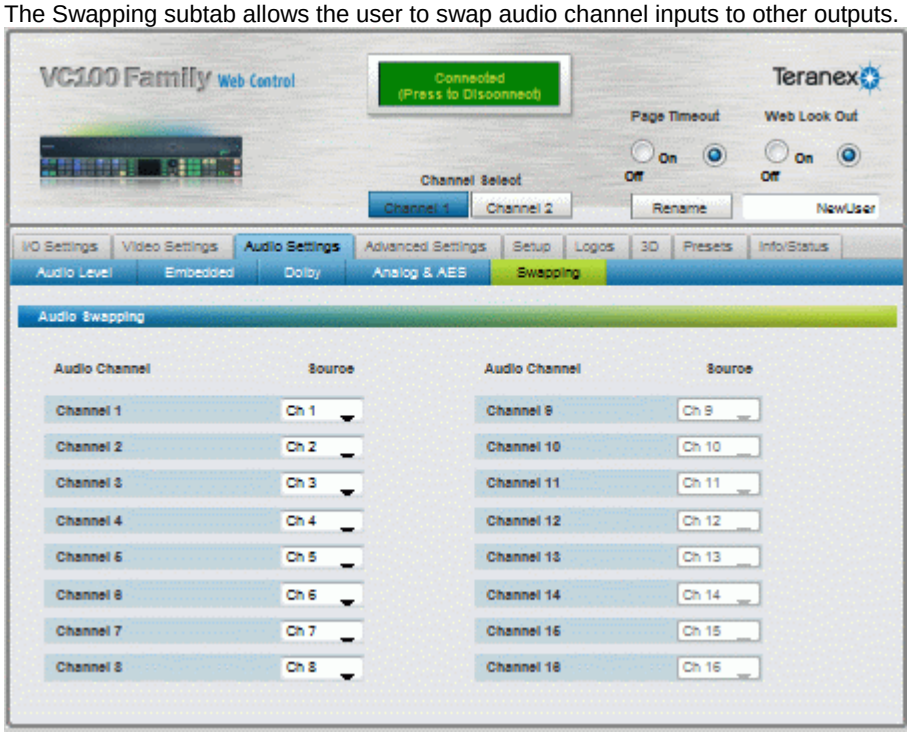
The AES section allows the user to determine how many audio channels from the AES audio input will be available to video processing channel 1 and video processing channel 2.

Read more on these controls in the LCD menu section.



Swapping

The Swapping subtab allows the user to swap audio channel inputs to other outputs.



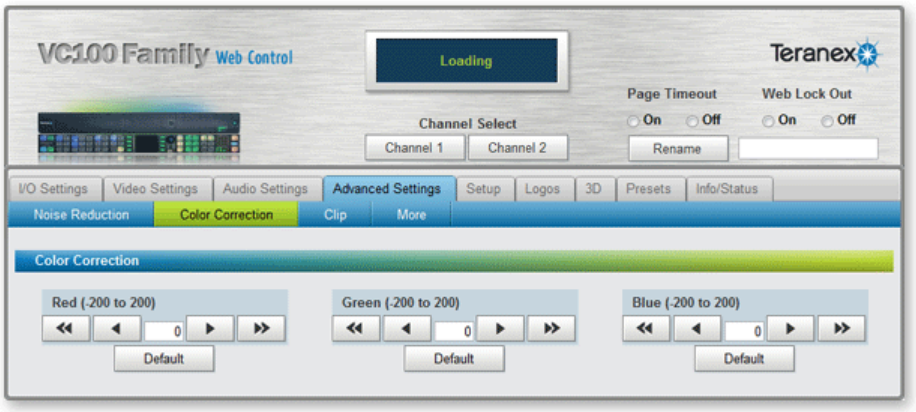
Advanced Settings menu

Noise Reduction

The Noise Reduction subtab allows the user to control the image noise reduction parameters for the active processing channel. The user can set the noise reduction On and Off and set the noise filtering level. The output image can be split in two for comparison purposes, and a red overlay mask can be applied on the region of the image where the VC100 Family product finds noise. Read more on these controls in the LCD menu section.

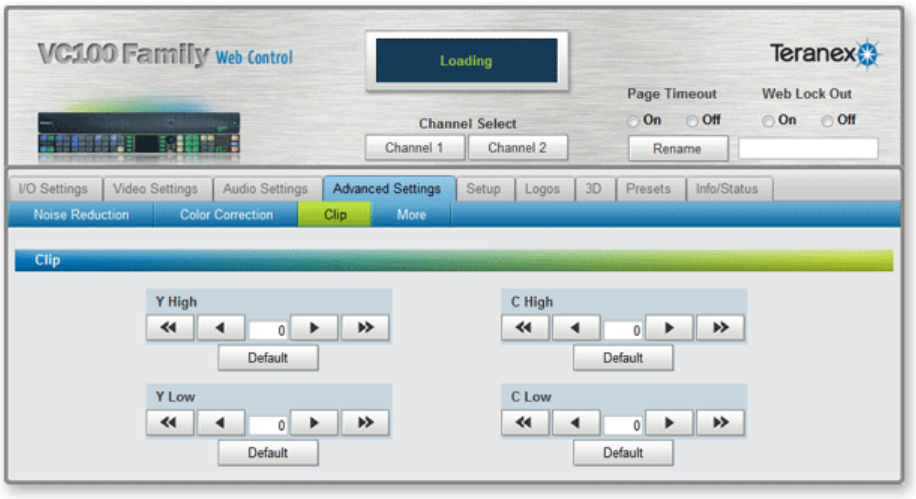
Color Correction

The Color Correction subtab allows the user to adjust the colors of the output image.



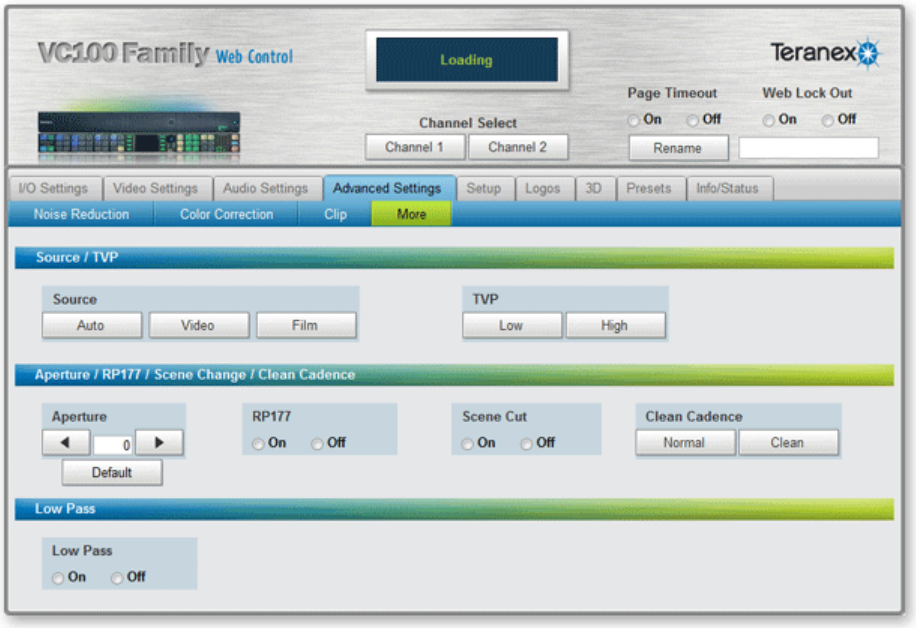
Clip

The Clip subtab allows the user to adjust the Luma and Chroma levels of the output image.



More

The More subtab allows the user to control the Film/Video and Cadence Detection and Correction. Read more on these controls in the LCD menu section.



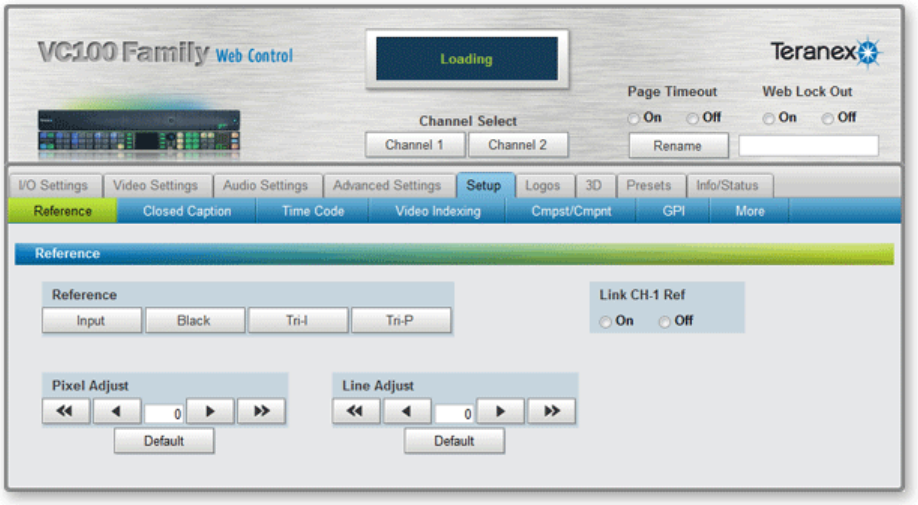
Setup menu

Reference

The Reference subtab allows the user to select a reference signal and adjust the timing in pixel and in line increments.

The **Link CH-1 Ref** ON/OFF selector allows the user to use the external reference signal applied to REF-1 as the sole reference for a dual-channel VC100 Family product. (This selection tool is only recommended if a facility uses a single external reference for the chassis, such as Black Burst. If the reference signal is likely to change (e.g. from BB to Tri-Level), please connect individual discrete reference inputs to the REF-1 and REF-2 input connectors.

Read more on these controls in the LCD menu section.

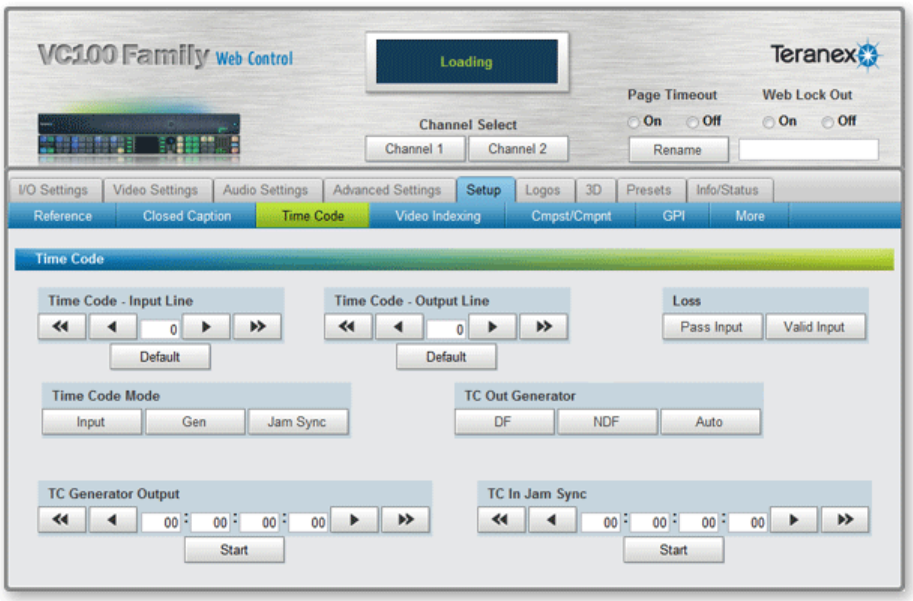


Closed Caption

The Closed Caption subtab allows the user to control the closed caption parameters of the VC100 Family product. Read more on these controls in the LCD menu section.

Time Code

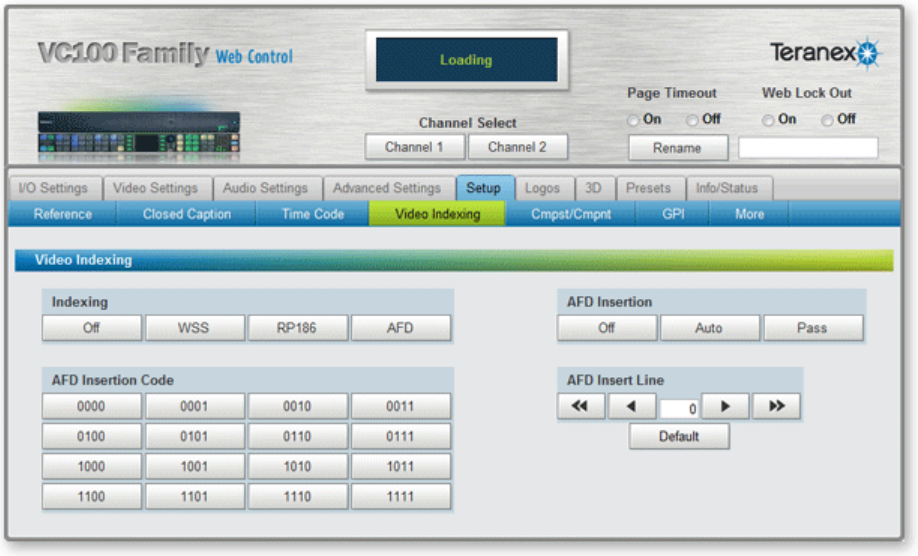
The Time Code subtab allows the user to control the time code parameters of the VC100 Family product. Read more on these controls in the LCD menu section.



Video Indexing

The Video Indexing subtab allows the user to enable/disable one of the available video indexing methods and to insert AFD (Active Format Description) codes in the output signal. Read more on these controls in the LCD menu section.

See also Appendix F for a description of AFD codes.



Cmpst/Cmpnt

The Cmpst/Cmpnt subtab allows the user to set and control many parameters for a composite video input or a component video input.

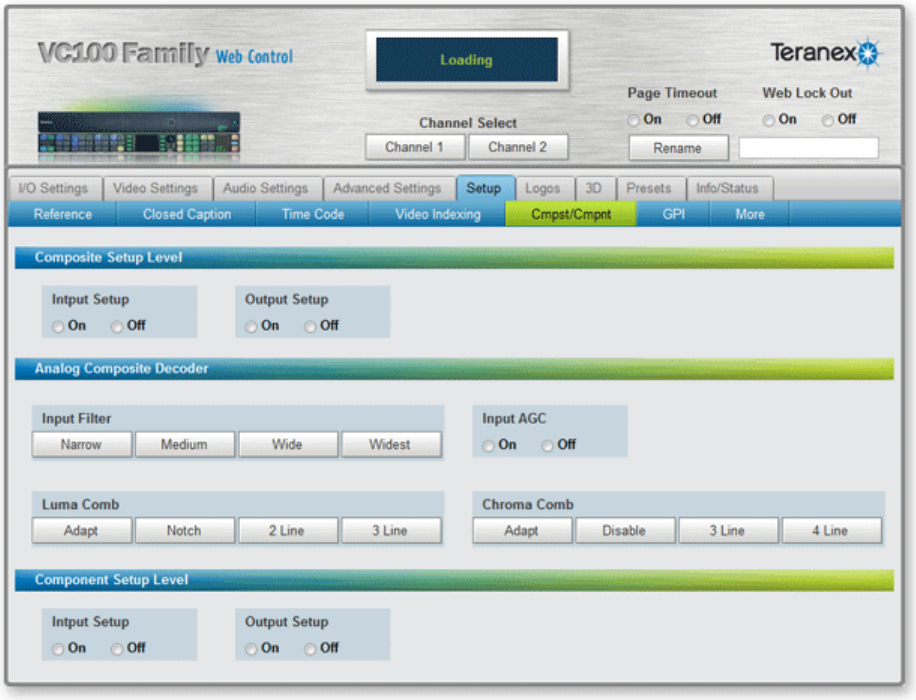
Composite/Component Setup Level

The Composite/Component Setup Level sections allows the user to enable/disable the setup level to be expected for the composite/component inputs and outputs.

Analog Composite Decoder

The Analog Composite Decoder section allows the user to configure the filter that is used for the analog composite decoder, to enable/disable the Automatic Gain Control (AGC) for the analog composite input, and to configure the Luma Comb filter and Chroma Comb filter decoders for the analog composite input.

Read more on these controls in the LCD menu section.



GPI

The GPI subtab allows the user to configure the general purpose interface (GPI) for the system.

GPI Setup

The GPI setup section allows the user to select the GPI to configure and to assign it to a video processing channel.

GPI Preset

The GPI preset section allows the user to select which system preset (Basic or Full) will be recalled by the currently selected GPI.

Read more on these controls in the LCD menu section.

See also Appendix D for more information.

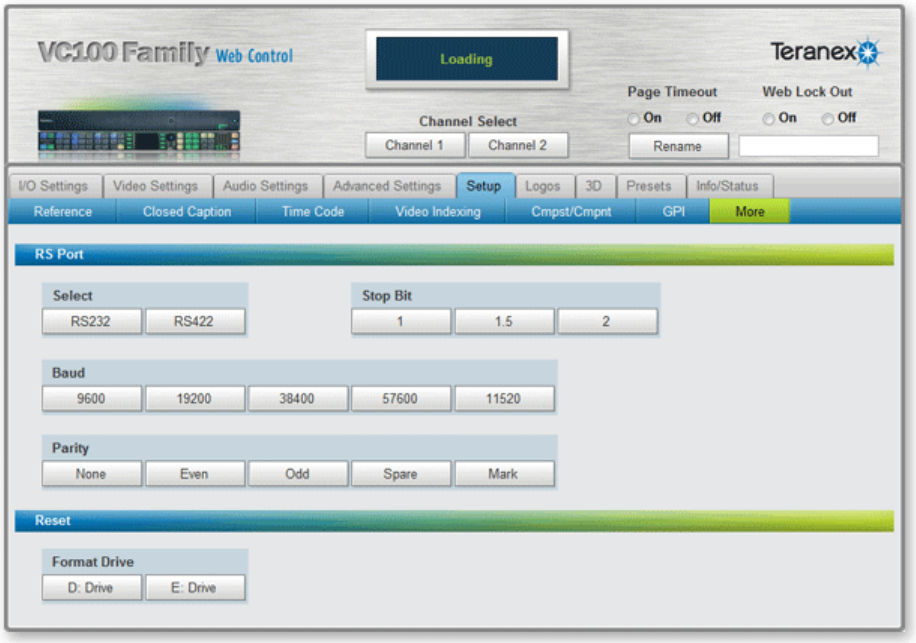
More

RS Port

The RS Port section allows the user to configure the serial communication port for RS232/RS422 and adjust the Baud Rate, Parity and Stop Bit values of the port. Read more on these controls in the LCD menu section.

Reset

The VC100 stores the user logos in its D: drive, and system presets in its E: drive. The Reset section allows the user to format these drives to erase old content and make room for new data.



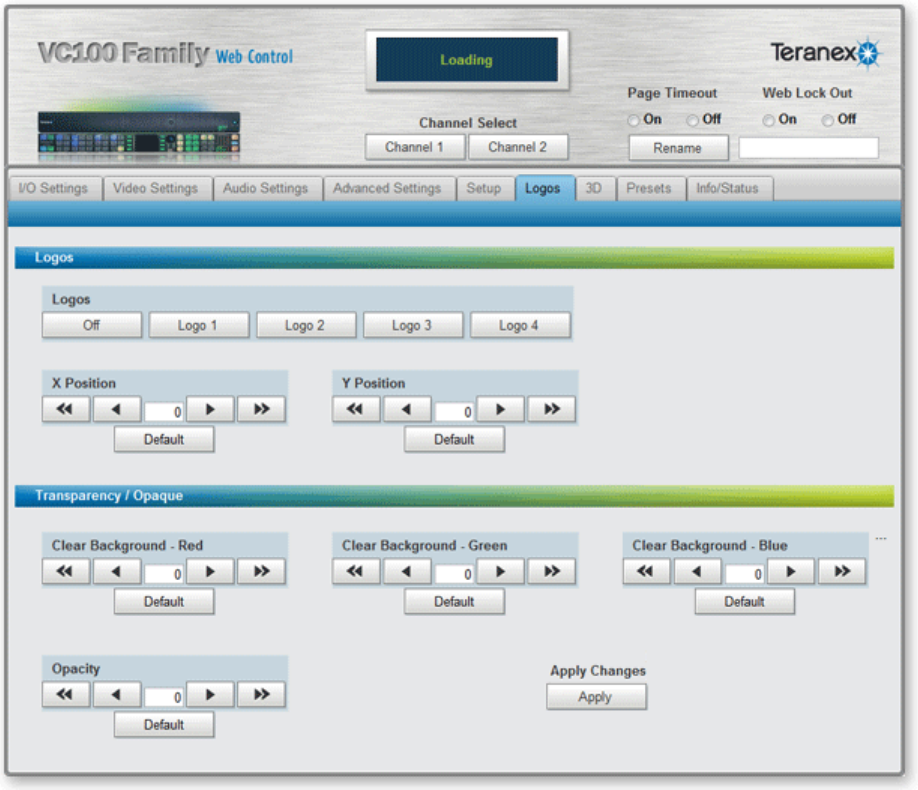
Logos

The Logos menu allows the user to manage the internal logo display system.

Logos
The Logos section allows the user to select and turn on a logo and to position the logo in the output video.

Transparency/Opaque
The Transparency/Opaque section allows the user to control the transparency parameters of the selected logo.

Read more on these controls in the LCD menu section.



3D menu

2D -> 3D

The 2D ->3D subtab allows the user to control the parameters of the VC1-2D-3D optional software module for a dual-channel VC100. This tab is only available on systems with the VC1-2D-3D software option enabled.

Stereoscopic Processing

The Stereoscopic Processing section allows the user to enable the 2D to 3D conversion of the video and to adjust the depth and intensity of the simulated 3D effect.

Audio

The Audio section allows the user to route the embedded audio to the selected audio channel at the output (Channel 1 (left eye), Channel 2 (right eye), Both, or None).

Logos

The Logos section allows user to select and turn on a logo, to adjust the 3D depth and to position the logo in the output video.

Read more on these controls in the LCD menu section.

3D ENC

The 3D ENC subtab allows the user to control the parameters of the VC1-3D-ENC (3D Encoder) optional software module for the VC100. This tab is only available on systems equipped with the VC1-3D-ENC software option.

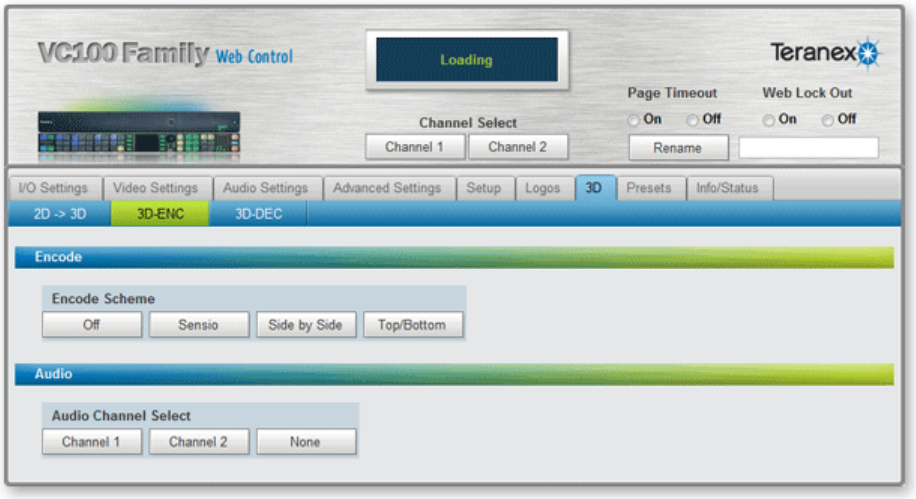
Encode

The VC100 3D Encoder application takes the 3D HD-SDI Left eye and Right eye sources from the input video and create a compressed HD-SDI output at 1.485 Gbps, encoded in one of the three formats listed in the Encode section.

Audio

The Audio section allows the user to route the desired embedded audio input to the encoded SDI output of the VC100 (Channel 1 (left-eye), Channel 2 (right-eye) or none).

Read more on these controls in the LCD menu section.



3D DEC

The 3D ENC subtab allows the user to control the parameters of the VC1-3D-DEC (3D Decoder) optional software module for the VC100. This tab is only available on systems equipped with the VC1-3D-ENC software option.

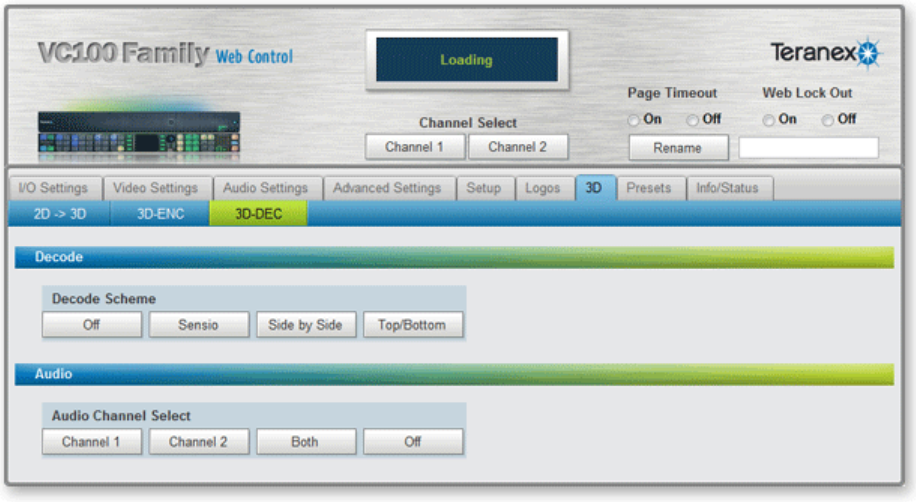
Decode

The VC100 3D Decoder application allows the user to input a 3D encoded HD-SDI source (compressed, 1.485 Gbps) and create independent Left eye and Right eye HD-SDI outputs using one of the decoding methods listed in the Decode section.

Audio

The Audio section allows the user to route the embedded audio from the encoded input to the decoded Channel 1(left eye) output, Channel 2 (right eye) output, or both Channel 1 and Channel 2 HD-SDI outputs of the VC100. You may also disable audio in this menu by turning the audio OFF.

Read more on these controls in the LCD menu section.

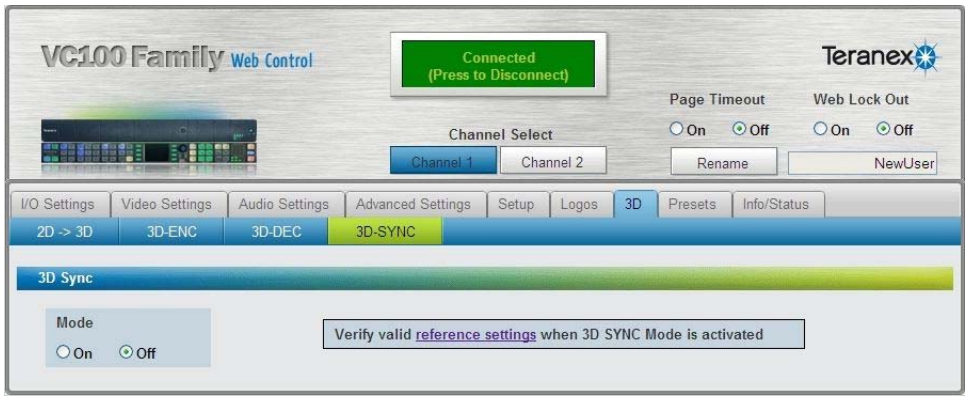


3D SYNC

The 3D SYNC subtab allows the user to activate the optional VC1-3D-SYNC software module for the VC100. This tab is only available on systems equipped with the VC1-3D-SYNC option.

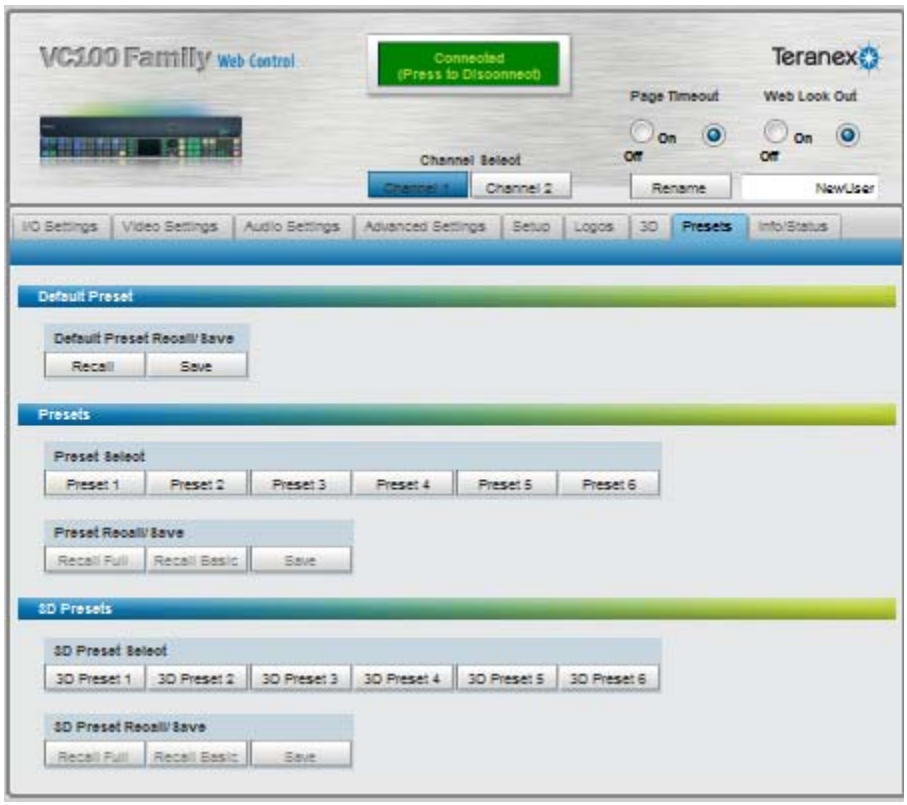
The 3D Sync application is a software option for use on a dual-channel VC100. 3D Sync permits synchronizing of the stereoscopic pair of video signals to either the left eye (channel 1) input signal or to an external reference of Blackburst or Tri-level sync supplied to the Reference 1 input. It also allows for frame rate conversion of the stereoscopic pair, ensuring that that output stereoscopic pair is both frame and phase locked.

Read more about this feature in the LCD menu section.



Presets menu

The Presets tab allows the user to save and recall different settings of the VC100 Family product. Read more on these controls in the LCD menu section.



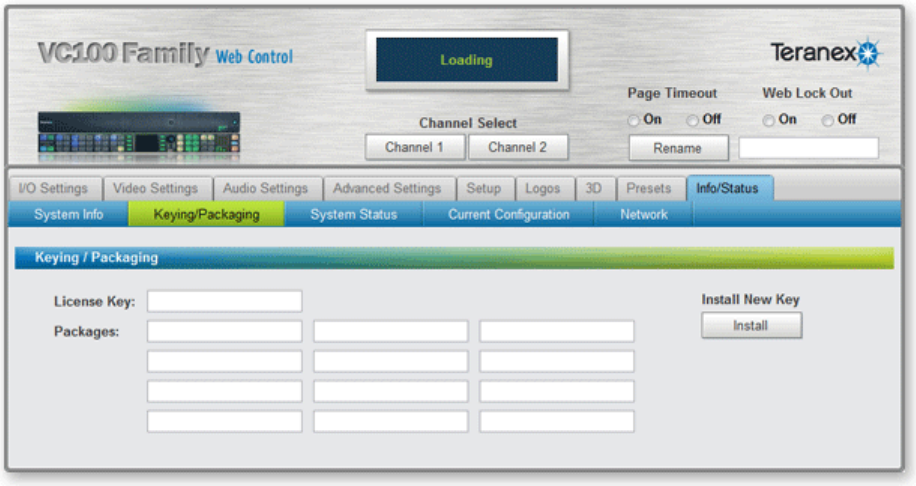
Info/Status menu

System Info

The System Info subtab displays information about the system the user is logged on to: Software, hardware, modules and network.

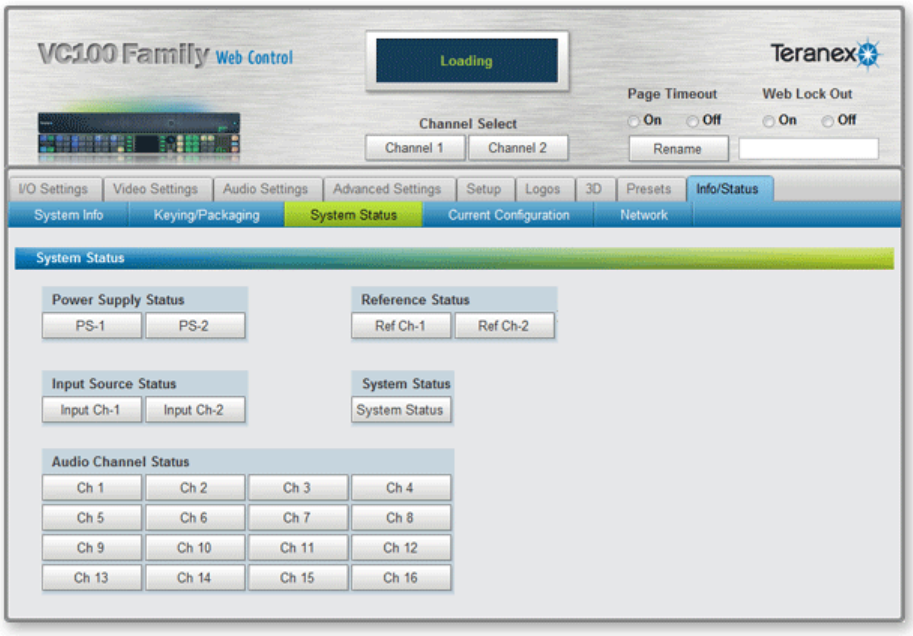
Keying/Packaging

The Keying/Packaging subtab displays the License Key number and a list of the packages installed on the system.



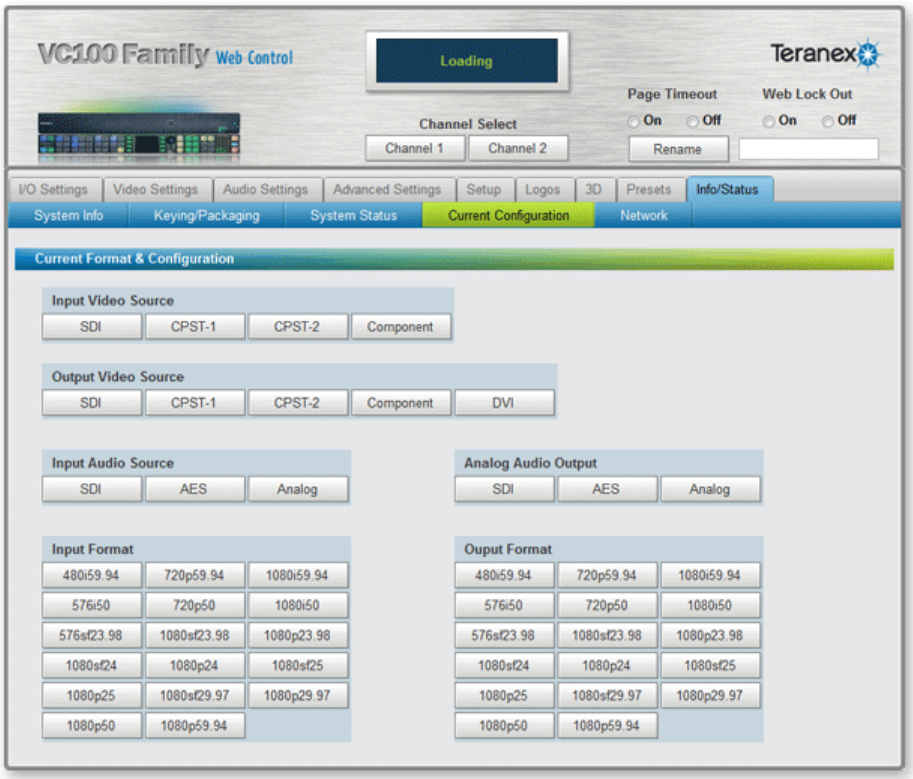
System Status

The System Status subtab displays the current settings of the VC100 Family product the user is logged on to: Power Supply, Reference signal channel, Input Source and Audio Channel Status.



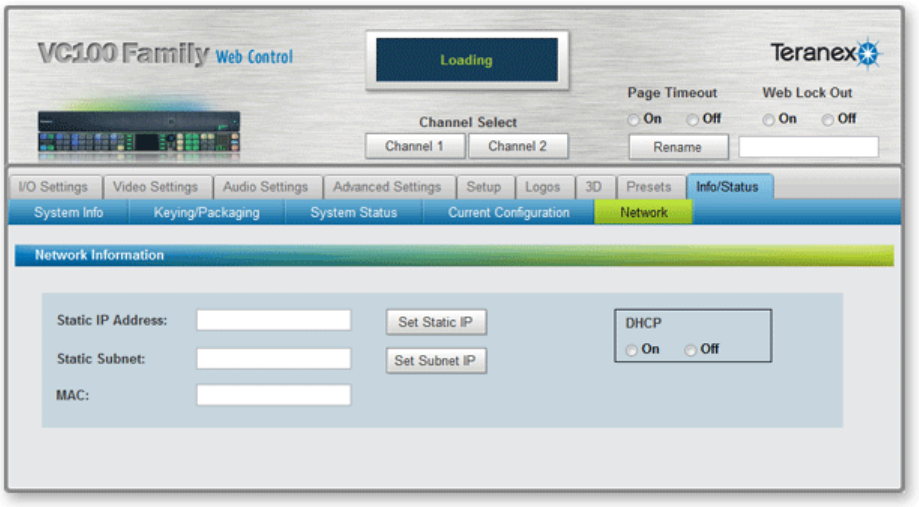
Current Configuration

The Current Configuration subtab displays the current settings of the VC100 Family product the user is logged on to: Input and Output Video Sources, Input and Output Audio Sources, Input and Output Video Formats.



Network

The Network subtab displays information about the MAC and Static Subnet, and allows the user to set a new static IP address for the VC100 Family product.



Appendix A - Audio Cables

Cables & Pin-outs

Analog Audio I/O Break Out Cable
Connector: Molex LFH

LFH Pos.	Signal Description	XLR (Female)	LFH Pos.	Signal Description	XLR (Male)
1	Channel 8 RX+Signal	2	31	Channel 8 TX+Signal	2
2	Channel 8 RX Ground	1	32	Channel 8 TX Ground	1
3	Channel 8 RX-Signal	3	33	Channel 8 TX-Signal	3
4	NC		34	NC	
5	Channel 7 RX+Signal	2	35	Channel 7 TX+Signal	2
6	Channel 7 RX Ground	1	36	Channel 7 TX Ground	1
7	Channel 7 RX-Signal	3	37	Channel 7 TX-Signal	3
8	NC		38	NC	
9	Channel 6 RX+Signal	2	39	Channel 6 TX+Signal	2
10	Channel 6 RX Ground	1	40	Channel 6 TX Ground	1
11	Channel 6 RX-Signal	3	41	Channel 6 TX-Signal	3
12	NC		42	NC	
13	Channel 5 RX+Signal	2	43	Channel 5 TX+Signal	2
14	Channel 5 RX Ground	1	44	Channel 5 TX Ground	1
15	Channel 5 RX-Signal	3	45	Channel 5 TX-Signal	3
16	Channel 4 RX+Signal	2	46	Channel 4 TX+Signal	2
17	Channel 4 RX Ground	1	47	Channel 4 TX Ground	1
18	Channel 4 RX-Signal	3	48	Channel 4 TX-Signal	3
19	NC		49	NC	
20	Channel 3 RX+Signal	2	50	Channel 3 TX+Signal	2
21	Channel 3 RX Ground	1	51	Channel 3 TX Ground	1
22	Channel 3 RX-Signal	3	52	Channel 3 TX-Signal	3
23	NC		53	NC	
24	Channel 2 RX+Signal	2	54	Channel 2 TX+Signal	2
25	Channel 2 RX Ground	1	55	Channel 2 TX Ground	1
26	Channel 2 RX-Signal	3	56	Channel 2 TX-Signal	3
27	NC		57	NC	
28	Channel 1 RX+Signal	2	58	Channel 1 TX+Signal	2
29	Channel 1 RX Ground	1	59	Channel 1 TX Ground	1
30	Channel 1 RX-Signal	3	60	Channel 1 TX-Signal	3

AES Audio I/O Break Out Cable (Balanced)
Connector: Molex LFH

LFH Pos.	Signal Description	XLR (Female)	LFH Pos.	Signal Description	XLR (Male)
1	Channel 8 RX+Signal	2	31	Channel 8 TX+Signal	2
2	Channel 8 RX Ground	1	32	Channel 8 TX Ground	1
3	Channel 8 RX-Signal	3	33	Channel 8 TX-Signal	3
4	NC		34	NC	
5	Channel 7 RX+Signal	2	35	Channel 7 TX+Signal	2
6	Channel 7 RX Ground	1	36	Channel 7 TX Ground	1
7	Channel 7 RX-Signal	3	37	Channel 7 TX-Signal	3
8	NC		38	NC	
9	Channel 6 RX+Signal	2	39	Channel 6 TX+Signal	2
10	Channel 6 RX Ground	1	40	Channel 6 TX Ground	1
11	Channel 6 RX-Signal	3	41	Channel 6 TX-Signal	3
12	NC		42	NC	
13	Channel 5 RX+Signal	2	43	Channel 5 TX+Signal	2
14	Channel 5 RX Ground	1	44	Channel 5 TX Ground	1
15	Channel 5 RX-Signal	3	45	Channel 5 TX-Signal	3
16	Channel 4 RX+Signal	2	46	Channel 4 TX+Signal	2
17	Channel 4 RX Ground	1	47	Channel 4 TX Ground	1
18	Channel 4 RX-Signal	3	48	Channel 4 TX-Signal	3
19	NC		49	NC	
20	Channel 3 RX+Signal	2	50	Channel 3 TX+Signal	2
21	Channel 3 RX Ground	1	51	Channel 3 TX Ground	1
22	Channel 3 RX-Signal	3	52	Channel 3 TX-Signal	3
23	NC		53	NC	
24	Channel 2 RX+Signal	2	54	Channel 2 TX+Signal	2
25	Channel 2 RX Ground	1	55	Channel 2 TX Ground	1
26	Channel 2 RX-Signal	3	56	Channel 2 TX-Signal	3
27	NC		57	NC	
28	Channel 1 RX+Signal	2	58	Channel 1 TX+Signal	2
29	Channel 1 RX Ground	1	59	Channel 1 TX Ground	1
30	Channel 1 RX-Signal	3	60	Channel 1 TX-Signal	3

AES Audio I/O Cable (Unbalanced)
Connector: Molex LFH Mtx 50

LFH Pos.	Signal Description	BNC Connector	LFH Pos.	Signal Description	BNC Connector
1	Channel 8 RX+Signal	1 (Pin)	31	Channel 8 TX+Signal	1 (Pin)
2	NC		32	NC	
3	Channel 8 RX-Signal	2 (Shield)	33	Channel 8 TX-Signal	2 (Shield)
4	NC		34	NC	
5	Channel 7 RX+Signal	1 (Pin)	35	Channel 7 TX+Signal	1 (Pin)
6	NC		36	NC	
7	Channel 7 RX-Signal	2 (Shield)	37	Channel 7 TX-Signal	2 (Shield)
8	NC		38	NC	
9	Channel 6 RX+Signal	1 (Pin)	39	Channel 6 TX+Signal	1 (Pin)
10	NC		40	NC	
11	Channel 6 RX-Signal	2 (Shield)	41	Channel 6 TX-Signal	2 (Shield)
12	NC		42	NC	
13	Channel 5 RX+Signal	1 (Pin)	43	Channel 5 TX+Signal	1 (Pin)
14	NC		44	NC	
15	Channel 5 RX-Signal	2 (Shield)	45	Channel 5 TX-Signal	2 (Shield)
16	Channel 4 RX+Signal	1 (Pin)	46	Channel 4 TX+Signal	1 (Pin)
17	NC		47	NC	
18	Channel 4 RX-Signal	2 (Shield)	48	Channel 4 TX-Signal	2 (Shield)
19	NC		49	NC	
20	Channel 3 RX+Signal	1 (Pin)	50	Channel 3 TX+Signal	1 (Pin)
21	NC		51	NC	
22	Channel 3 RX-Signal	2 (Shield)	52	Channel 3 TX-Signal	2 (Shield)
23	NC		53	NC	
24	Channel 2 RX+Signal	1 (Pin)	54	Channel 2 TX+Signal	1 (Pin)
25	NC		55	NC	
26	Channel 2 RX-Signal	2 (Shield)	56	Channel 2 TX-Signal	2 (Shield)
27	NC		57	NC	
28	Channel 1 RX+Signal	1 (Pin)	58	Channel 1 TX+Signal	1 (Pin)
29	NC		59	NC	
30	Channel 1 RX-Signal	2 (Shield)	60	Channel 1 TX-Signal	2 (Shield)

Appendix B - Preset Files

Basic User Presets

The following table details the parameters that are recalled in the Basic user presets.

Basic Presets	
Function	**Comments**
Aperture Slider	for frame-rate conversions
B-Y Level	
Black Level	
Closed Caption Detect Field 2 Information	
Closed Caption Detection Line	
Closed Caption on/off	
Closed Caption Output Line Number	for HD Outputs
Detail Enhance	
Edge Trim - Horizontal	
Edge Trim - Vertical	
Hue Phase	
Proc Amp Bypass	
R-Y Level	
Noise Reduction Red Overlay	
Saturation	
Sharpness	
Auto / Film / Video	
Noise Reduction Split Screen	
Video Test Signals	enable video test signals
Timecode Output Line Select	for SD output
Noise Reduction on/off	
Noise Reduction Bias Level	
Video Gain	
Zoom / Crop	

Appendix C - RS232/RS422 Port

Pin #	RS232	RS422	Pin #	RS232	RS422
1	GND	GND	6	No connect	No connect
2	RX	RX+	7	No connect	RX-
3	TX	TX+	8	No connect	TX-
4	No connect	No connect	9	No connect	No connect
5	GND	GND			

Appendix D - GPI

The GPI electrical interface is 3.3V LVTTL, tolerant to 5V TTL (same as UVC). Here's the pinout for GPI connector.

Pin #	Signal	GPI #	Pin #	Signal	GPI #
1	GND		6	GPI_IN2	GPI_3
2	GPI_INO	GPI_1	7	GPI_IN3	GPI_4
3	GND		8	GPI_IN4	GPI_5
4	GPI_IN1	GPI_2	9	GPI_IN5	GPI_6
5	GND				

Appendix E - Directory Structure

On USB Storage Device

Global Preset Files
Drive:\Teranex\VC100\Global\Preset

- All Global preset files should be in this directory at the top level
- There will be 6 Preset files plus 1 Default Preset file per video processing channel (a single channel system will have 7 files, a dual channel systems will have 14 files)
- Global Presets can be loaded on any VC100

System Preset Files
Drive:\Teranex\VC100\xxxxxx\Preset

- xxxxxx represents the last 6 characters of the system's MAC address
- All System Preset files should be in this directory at the top level
- There will be 6 Preset files plus 1 Default Preset file per video processing channel (a single channel system will have 7 files, a dual channel systems will have 14 files)
- System Presets can only be loaded on the VC100 that they were saved from. When the Presets are saved, they are placed in a Folder labeled with the last 6 characters of the system MAC address

Logo Files
Drive:\Teranex\VC100\Logo

- There are 4 Logo memory locations in the VC100, each location can hold 4 logo files corresponding to the four primary output resolutions (480, 576, 720, 1080)
- Load the logo bitmap files with the following naming convention:
  LogoX-YYYY.bmp where:
  - X is the logo number (1-4)
  - YYYY is the output resolution where the logo will be used (i.e. – 480, 576, 720, 1080)

Appendix F - Video Indexing

Wide Screen Signaling (WSS)

Wide Screen Signaling (WSS) was designed for use in 625 analog television systems. It can carry several types of information:

- Image format (ratio)
- Type of Sound
- Copyright
- Presence of close-caption

In the digital SD-SDI video domain, only the format ratio information is utilized. This information is coded on the video half-line number 23. The VC100 supports the standard mode of WSS (8 presets). The VC100 supports WSS in the following format conversions:

Input	Ouput
576i50	720p50
576i50	1080i50

The VC100 will respond to the following WSS presets:

Input Standard	Code	Input Aspect	VC100 Output Aspect
1	1	16:9 Anamorphic	Anamorphic
4	1101	Letterbox	Common Sides
8	1110	4:3	Common Top & Bottom

When WSS is on and no flags are present the system will switch to the Common Top & Bottom aspect ratio.

Note: WSS support is mutually exclusive with RP186 & AFD. The VC100 can only be set to respond to one of flagging schemes at a time.

Note: At present the VC100 will not pass or insert WSS codes. It will only respond to them if WSS is enabled and a flag is present.

Video Index Information Coding

Video Index Information Coding, SMPTE RP186, was designed for use in 525 and 625 analog television systems. It can carry several types of information:

- Image format (ratio)
- Pan & Scan Data
- Technical Heritage Information
- User Information (including program ID, station or production company, tape information, date of production, studio lighting information and lens type)

The VC100 supports RP186 in the following format conversions:

Input	Ouput
480i59.94	720p59.94
480i59.94	1080i59.94
576i50	720p50
576i50	1080i50

The VC100 will respond to the RP186 data field shown in Blue (Class 1.1, Data octet 1):

Scanning System	B7	B6	B5	B4	B3	B2	B1	B0	VC100 Output Aspect
No Information	0	0	0	0	0	0	0	0	No response
480i59.94 (4:3)	0	0	0	0	0	0	0	1	Common Top & Bottom
576i50 (4:3)	0	0	0	0	0	0	1	0	Common Top & Bottom
Reserved	0	0	0	0	0	0	1	1	No response
Reserved	0	0	0	0	0	1	0	0	No response
480i59.94 (16:9)	0	0	0	0	0	1	0	1	Anamorphic
576i50 (16:9)	0	0	0	0	0	1	1	0	Anamorphic
Reserved	0	0	0	0	0	1	1	1	No response
Through	1	1	1	1	1	1	1	1	No response

When RP186 is on and no flags are present the system will switch to the Common Top & Bottom aspect ratio.

Note: Note: RP186 support is mutually exclusive with WSS & AFD. The VC100 can only be set to respond to one of flagging schemes at a time.

Note: At present the VC100 will not pass or insert RP186 codes. It will only respond to them if RP186 is enabled and a flag is present.

Active Format Description (AFD)

Active Format Description, SMPTE-2016-1, 2, 3, 4, 5 was designed for use with SD & HD digital television systems. It can carry several types of information:

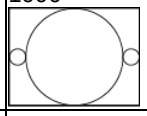
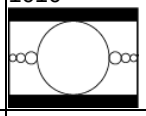
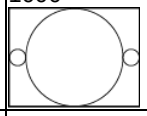
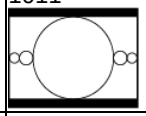
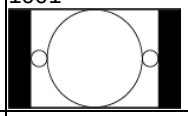
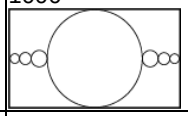
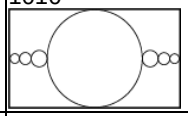
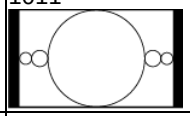
- Image format (ratio)
- Bar Data
- Pan & Scan Data

The VC100 supports AFD in the following format conversions:

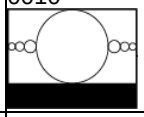
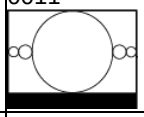
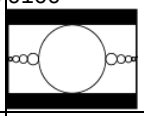
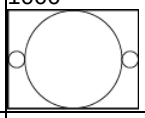
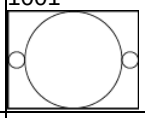
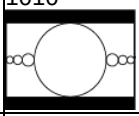
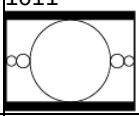
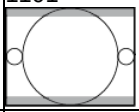
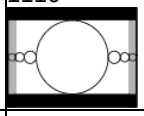
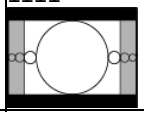
- All formats are supported by AFD.

AFD Insertion - Automatic Mode

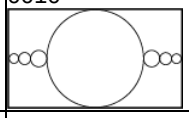
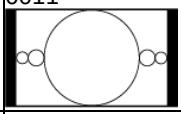
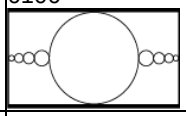
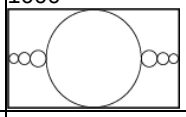
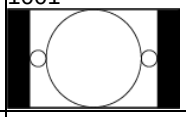
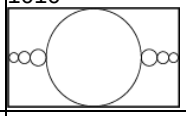
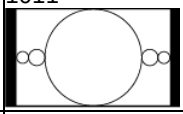
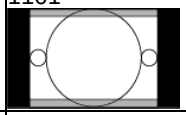
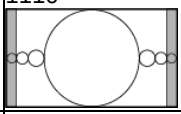
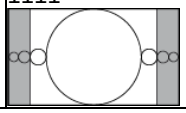
The AFD code that corresponds to the current output aspect ratio will be inserted as shown below:

VC100 Aspect Ratios (4:3 coded frame)	**AFD code (a3, a2, a1, a0)**
Common Top & Bottom	1000' 
Common Sides	1010' 
Anamorphic	1000' 
14:9	1011' 
Flexview	no code
VC100 Aspect Ratios (16:9 coded frame)	AFD code (a3, a2, a1, a0)
Common Top & Bottom	1001' 
Common Sides	1000' 
Anamorphic	1010' 
14:9	1011' 
Flexview	no code

AFD Insertion codes for a 4:3 output frame

4:3 coded frame	AFD code (a3, a2, a1, a0)
Undefined	0000'
Reserved	0001'
Letterbox 16:9 image, at top of coded frame	0010' 
Letterbox 14:9 image, at top of coded frame	0011' 
Letterbox image with an aspect ratio greater than 16:9, vertically centered in the coded frame	0100' 
Reserved	0101'
Reserved	0110'
Reserved	0111'
Full frame 4:3 image, the same as the coded frame	1000' 
Full frame 4:3 image, the same as the coded frame	1001' 
Letterbox 16:9 image, vertically centered in the coded frame, with image areas protected	1010' 
Letterbox 14:9 image, vertically centered in the coded frame	1011' 
Reserved	1100'
Full frame 4:3 image, with an aternative 14:9 center	1101' 
Letterbox 16:9 image, with alternative 14:9 center	1110' 
Letterbox 16:9 image, with alternative 4:3 center	1111' 

AFD Insertion codes for a 16:9 output frame

16:9 coded frame	AFD code (a3, a2, a1, a0)
Undefined	0000'
Reserved	0001'
Full frame 16:9 image, the same as the coded frame	0010' 
Pillarbox 14:9 image, horizontally centered in the coded frame	0011' 
Letterbox image with an aspect ratio greater than 16:9, vertically centered in the coded frame	0100' 
Reserved	0101'
Reserved	0110'
Reserved	0111'
Full frame 16:9 image, the same as the coded frame	1000' 
Pillarbox 4:3 image, horizontally centered in the coded frame	1001' 
Full frame 16:9 image, with all image areas protected	1010' 
Pillarbox 14:9 image, horizontally centered in the coded frame	1011' 
Reserved	1100'
Pillarbox 4:3 image, with alternative 14:9 center	1101' 
Full frame 16:9 image, with alternative 14:9 center	1110' 
Full frame 16:9 image, with alternative 4:3 center	1111' 

AFD Reaction Codes for a 4:3 coded frame

The VC100 will react to the four codes highlighted above by changing the output aspect ratio to the one shown in the output aspect ratio column.

4:3 coded frame	AFD code (a3, a2, a1, a0)	Output Aspect Ratio
Undefined	0000'	No response
Reserved	0001'	No response
Undefined	0010'	No response
Undefined	0011'	No response
Undefined	0100'	No response
Reserved	0101'	No response
Reserved	0110'	No response
Reserved	0111'	No response
full frame 4:3 image, the same as the coded frame	1000'	Common top & bottom
full frame 4:3 image, the same as the coded frame	1001'	Common top & bottom
letterbox 16:9 image, vertically centered in the coded frame will all image areas protected	1010'	Common sides
letterbox 14:9 image, vertically centered in the coded frame	1011'	14:9
Reserved	1100'	No response
Undefined	1101'	No response
Undefined	1110'	No response
Undefined	1111'	No response

AFD Reaction Codes for a 16:9 coded frame

The VC100 will react to the four codes highlighted above by changing the output aspect ratio to the one shown in the output aspect ratio column.

16:9 coded frame	AFD code (a3, a2, a1, a0)	Output Aspect Ratio
Undefined	0000'	No response
Reserved	0001'	No response
full frame 16:9 image, the same as the coded frame	0010'	No response
pillarbox 14:9 image, horizontally centered in the coded frame	0011'	No response
letterbox image with an aspect ratio greater then 16:9, vertically centered in the coded frame	0100'	No response
Reserved	0101'	No response
Reserved	0110'	No response
Reserved	0111'	No response
full frame 16:9 image, the same as the coded frame	1000'	Anamorphic
pillarbox 4:3 image, horizontally centered in the coded frame	1001'	Common top & bottom
full frame 16:9 image, with all image areas protected	1010'	Common sides
pillarbox 14:9 image, horizontally centered in the coded frame	1011'	14:9 Pillarbox
Reserved	1100'	No response
pillarbox 4:3 image, with alternative 14:9 center	1101'	No response
full frame 16:9 image, with alternative 14:9 center	1110'	No response
full frame 16:9 image, with alternative 4:3 center	1111'	No response

Appendix G - Guidelines for Logo Creation

Note: The VC100 currently only accepts logos in 24-bit bitmap (.bmp) format.

Logos are resolution dependent. They are overlayed on the output image pixel-for-pixel as created. This requires that each logo be created in the actual size desired for each output resolution needed. There are 4 slots for LOGO1, one for each output resolution supported, 720x486, 720x576, 1280x720 and 1920x1080. The user can store different logos for each resolution, if desired. This is repeated for LOGO2, LOGO3, and LOGO4.

The user can specify a background transparent color that will be ignored by the VC100. This color can be adjusted through the Transparent R, G and B sliders in the Logo Menu. The color that is set as the transparent color will be ignored by the VC100 and the video will be passed through. This transparent color is saved as part of a preset store/recall.

Loading Logo Files via USB

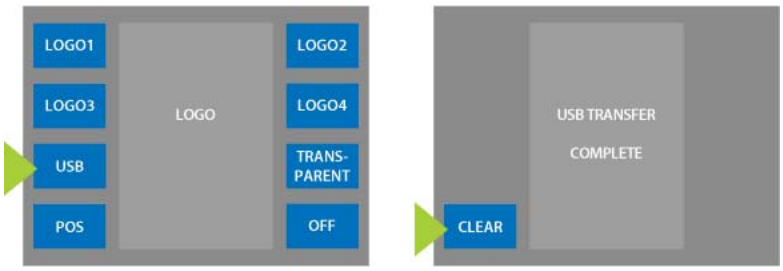
- **1.** Create the following folder structure on your USB storage device: Drive:\Teranex\VC100\Logo
- **2.** Load the logo bitmap files in the LOGO folder with the following naming convention:
  LogoX-YYYY.bmp where:
  - **X** is the logo number (1-4)
  - **YYYY** is the output resolution where the logo will be used (i.e. – 480, 576, 720, 1080)
  - A leading “0” (zero) is optional in the 480, 576 and 720 filenames.
    Examples of valid filenames are: Logo1-1080.bmp; Logo2-480.bmp; Logo3-0576.bmp.

Note: A total of 16 logos can be loaded, four at each of the four output resolutions.

- **3.** Insert the USB storage device into the USB port on the Local Control Panel. The message, “USB DEVICE CONNECTED” will appear on the Control Panel display. Press Clear and wait approximately 10 seconds to be sure the USB device is ready.

Note: Note: If the USB storage device has an LED, it will stop flashing when the USB storage device is ready.

- **4.** Navigate to the Logo Menu and press the **USB** button
  - A message “USB TRANSFER IN PROGRESS” will appear
  - Wait for the message “USB TRANSFER COMPLETE” to appear
  - Press the Clear button
  - The Logos should now be ready for use



Appendix H - System Specifications

Video Inputs	
SD- & HD-SDI Input: (VC80 / VC100)	- Per Video Processing Channel: 1 x BNC SD/HD-SDI, 10-bit serial digital input at 270Mb/s per SMPTE-259-C or 20-bit serial digital input at 1.485Gb/s per SMPTE 292-1997, SD audio embedding per SMPTE 272M or HD audio embedding per SMPTE-299. - Cable Length SD: 300m (1000ft.) Belden 1694A at 270Mb/s and HD: 110m (350ft.) Belden 1694A at 1.485Gb/s
SD-, HD- & 3G-SDI Input: (VC120 & VC1-3GIO Option)	- Per Video Processing Channel: 1 x BNC SD/HD/3G-SDI, 10-bit serial digital input at 270Mb/s per SMPTE-259 or 20-bit serial digital input at 1.485Gb/s per SMPTE 292 or 20/30-bit serial digital input at 2.97Gb/s per SMPTE 424, SD audio de-embedding per SMPTE 272 or HD/3G audio de-embedding per SMPTE-299.
Analog Component Input: (Optional - VC80 / VC100)	- 3 x BNC User selectable, YCrCb or RGB Can be assigned to video processing channel 1 or 2
Analog Composite Input: (Optional - VC80 / VC100)	- Per Video Processing Channel: 1 x BNC Analog composite input, 12-bit decoder, SMPTE RS-170A, CCIR-656.
Video Outputs	
SD- & HD-SDI Output: (VC80 & VC100)	-Per Video Processing Channel: 2 x BNC SD/HD-SDI, 10-bit serial digital output at 270Mb/s per SMPTE-259-C or 20-bit serial digital output at 1.485Gb/s per SMPTE 292-1997, SD audio embedding per SMPTE 272M or HD audio embedding per SMPTE-299. - Return Loss: >15dB up to 1.5GHz per SMPTE-292M - Jitter: <0.2UI as per SMPTE RP-184
SD-, HD- & 3G-SDI Output: (VC120 & VC1-3GIO Option)	- Per Video Processing Channel: 2 x BNC SD/HD/3G-SDI, 10-bit serial digital output at 270Mb/s per SMPTE-259 or 20-bit serial digital output at 1.485Gb/s per SMPTE 292 or 20/30-bit serial digital output at 2.97Gb/s per SMPTE-424, SD audio embedding per SMPTE 272 or HD/3G audio embedding per SMPTE-299. - Return Loss: >15dB up to 1.5GHz per SMPTE-292M and >10dB, 1.5GHz to 3GHz per SMPTE-424M - Jitter: Conforms to Jitter specs per SMPTE-259C, SMPTE-292-1997, and SMPTE-424M
Analog Component Output: (Optional - VC80 / VC100)	- 3 x BNC User selectable, YCrCb or RGB Can be assigned to video processing channel 1 or 2
Analog Composite Output: (Optional - VC80 / VC100)	- Per Video Processing Channel: 1 x BNC Analog composite output, 10-bit encoder, SMPTE RS-170A, CCIR-656.
Reference	
Reference Input:	- 1 x BNC SD Blackburst - SMPTE-170M or HD Tri-level Sync - SMPTE 274M / SMPTE296M per video processing channel
Audio Inputs	
Embedded Audio Input:	- 16-channels of embedded audio - Sampling: 48kHz - Quantization: SD: 20-bits, HD: 24-bits - Audio Delay: Adjustable -100mS to +5 Seconds Note: A single channel VC100/VC120 has 16-channels of embedded

	audio. In a dual-channel VC80/VC100/VC120, eight (8) audio channels are assigned to each video processing channel. A dual-channel system with the optional VC1-AEM audio expansion module has 16-channels of audio per video processing channel.
AES Audio Intput (Optional):	- 16-channels of AES audio - User selectable as balanced or unbalanced
Analog Audio Intput (Opt):	- 8-channels of analog audio
Audio Outputs	
Embedded Audio Output:	- 16-channels of embedded audio - Sampling: 48kHz - Quantization: SD: 20-bits, HD: 24-bits Note: A single channel VC100/VC120 has 16-channels of embedded audio. In a dual-channel VC80/VC100/VC120, eight (8) audio channels are assigned to each video processing channel. A dual-channel system with the optional VC1-AEM audio expansion module has 16-channels of audio per video processing channel.
AES Audio Output (Optional):	- 16-channels of AES audio
Analog Audio Output (Optional):	- 8-channels of analog audio User selectable output reference level (-10dB, 0dB, +4dB, +8dB)
Linear Timecode Inputs	
Linear Timecode Input:	- 1 x BNC Linear Timecode per video processing channel
Linear Timecode Outputs	
Linear Timecode Output:	- 1 x BNC Linear Timecode per video processing channel
Ancillary Data Input/Output	
Closed Captioning:	- SMPTE-334m - SDID=1 and SDID=2 - Service 1 and 2 - ITU-608 pass-through for 480i59.94 Input/Output processing (all incoming services will pass through, i.e. CC1, CC2, CC3, CC4, T1, T2, T3,T4, XDS). - ITU-608 to ITU-708 translation for 480i59.94 up-conversions to 720p59.94, 1080i59.94 and 1080sf23.98 (only the primary language from CC1 will be transcoded to DTVCC service S1). (DTVCC service S2 can select between CC2 and CC3 for transcode). - ITU-708 pass-through and rate conversion for HD Input/Output processing for 720p59.94, 1080i59.94 and 1080sf23.98 Â (all DTVCC services except XDS will pass through. The frame rate and checksums will be adjusted as necessary). - ITU-708, Line 21 extraction for down-conversions from 720p59.94, 1080i59.94 and 1080sf23.98 to 480i59.94 (only if the line 21 data is present in the 708 CDP, otherwise the output will contain a clock-run-in with null text).
Vertical Interval Time Code (VITC):	- Timecode Generator - Input timecode (VITC) delayed to automatically match the video processing delay - Jam Sync Mode
Video Indexing:	- Supports WSS, RP186 and AFD
Processing Features	
Video:	- 12-bit Video Processing - Video Proc Amp

	- Detail Enhance & Sharpness - 2 Frame / 4 Frame Processing Modes - Luminance & Chrominance Clip - Scene Cut Detection - Temporal Recursive Noise Reduction (Standard on VC120, Optional on VC80/VC100) - Aspect Ratio Conversion with Active Fill Information - Color Correction - Logo Insertion - Frame Sync with Audio Sample-Rate Conversion
Audio:	- Level & Phase Adjustment - Delay Adjustment (0 to 5 seconds) - Channel Swapping - Dolby-E Pass-through (standard) and Decoding (optional)
Ethernet:	- 1 x RJ-45 10/100 BaseT Ethernet - User assignable IP address (Supports DHCP)
RS232/RS422:	- 1 x 9P-D RS232 or RS422 - User selectable baud rate, stop bits & parity
General Purpose Interface (GPI):	- 1 x 9P-D GPI inputs (6) - GPI triggers can be momentary closures or held low
Power:	- Dual AC 100-240V 50/60Hz Connectors - Dual Redundant Power Supplies - Power Consumption - 125W